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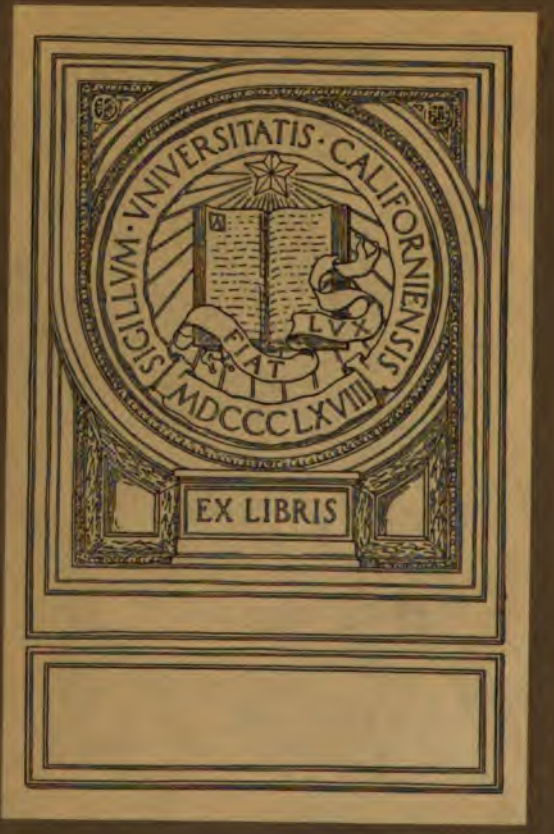
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THE CHANNEL ISLANDS OF CALIFORNIA

OF
OF

THE TOWN OF AVALON AND AVALON BAY
Santa Catalina Island, California

THE CHANNEL ISLANDS OF CALIFORNIA

A BOOK FOR THE ANGLER, SPORTSMAN, AND TOURIST

BY

CHARLES FREDERICK HOLDER

AUTHOR OF "THE LOG OF A SEA ANGLER," "BIG GAME AT SEA," ETC.

WITH NEARLY 150 ILLUSTRATIONS FROM PHOTOGRAPHS, AND 12 MAPS

CHICAGO

A. C. McCLURG & CO.

1910

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PREFACE

IT will probably be very difficult to find any one in America or England, fond of true manly sports, who has not heard of the leaping tuna and its home, the Channel Islands of the Pacific Coast, which, like chalices of emeralds, are strung along the coast of California approximately from latitude 31° to 35°. The region corresponds to that of the Mediterranean — Southern France, Spain, Italy, and Cairo — and to Charleston and Northern Florida on the Atlantic Coast. It has all the appearance, with its palms and semitropic verdure, of the tropics, yet it has not a tropical climate, the winters being cool and bracing, and the summers cooler than any seashore region on the Atlantic Coast south of Nova Scotia.

What Madeira, the Riviera, and the Azores are to Europe, the Channel Islands of California have become to the United States, a great national playground visited annually by an army of pleasure-seekers and travellers not only from this country, but from all over the world — a contingent which will be augmented many fold as years go by, when the Isthmus Canal is opened, and yachts and other vessels can easily reach this coast.

Nowhere, so far as known, at least not within two and a half hours from a city of three hundred and fifty thousand inhabitants, such as Los Angeles, can be found islands with a semitropic yet bracing climate,

21019

affording the remarkable diversities of sport found here. Several of the islands belong to the Government. One of the largest of these, San Clemente, which has the reputation of possessing the most remarkable sea-angling in the world, is practically a national fish and game preserve, dominated by the same principles of conservation included in the Roosevelt and Pinchot policies.

The perfect climate, in all probability, does not exist, but these isles of summer are wild flower gardens when the East is snow-bound, and, winter and summer, are great national playgrounds of the people. In winter one may bask in mild yet bracing air, and in summer find life in the open, with semitropical surroundings, yet without extreme heat or humidity. This cannot be better illustrated than by saying that from May to October, or for six months, the idler, angler, golfer, sportsman, or health-seeker will not experience a squall or rainstorm — comfortable, beautiful days following one another.

The islands have the climatic charm of the Riviera, without its summer heat; the delights of its winters, without the cold winds which sweep down from the Maritime Alps. It is difficult to explain the climates of Southern California, but it may interest the credulous reader of prefaces, that, as these lines are written, the twenty-second of December, 1909, in Pasadena, — where the climate is practically that of the islands though colder — I can see the violets and roses through the open door. The heliotrope, in full bloom, reaches higher than my window; the guavas are ripening in the sun, and poinsettias and other plants are a blaze of color. Everything speaks of summer, yet in just

about one hour, by ordering a sleigh by telephone, I can indulge in this Eastern pastime on the slopes of the snow-capped Sierra Madre, four or five miles away, and a mile above the sea.

While the islands afford various sports — golf, coaching, hunting, mountain climbing, and diversion for the botanist and archæologist, their fame has been made by the extraordinary sea-angling with rod and reel, the region being, apparently, the meeting-ground of many great game fishes caught nowhere else, and many indigenous to the locality. Here is the leaping tuna, the long-finned tuna, the yellow-fin, the white sea bass, the leaping swordfish that jumps and outfights the tarpon, the yellowtail and many more, any one of which would make any place famous, and to catch some of which, scores of anglers cross the Atlantic and continent yearly.

In the present volume I have made no attempt to exhaust the subject. Technical papers relating to the antiquities, the flora, and fauna can be found in the publications of the National Museum and various scientific societies, as the Channel Islands have been visited and examined by eminent specialists in various branches of science, the botanical, biological, and ethnological conditions being more than remarkable. Here are plants and land animals of species found nowhere else. Here are the remains of a great and powerful barbaric civilization, a people with arts and intellectual graces, which have been swept away like the fog flecks before a gale. Here are islands in their full glory—some being blown into the sea, others, again, beaten down and just below the surface, deep in the embrace of ocean forests.

I have endeavored to present a clear picture of some of the pastimes and delights of this great playground, and I can wish the sport-loving reader no better luck than that sometime he or she may, with the lightest tackle, troll for the tuna, yellowtail, or sea bass on these azure seas.

Parts of some of these chapters have been published in "McClure's Magazine," "The Century," "The Badminton" of London, "Outing," "Recreation," "The Geographical Magazine," and "Scientific American." For certain data regarding the birds of the island, I am indebted to Professor Joseph Grinnell and Mr. Gaylord, of the Pasadena Academy of Sciences. My thanks are also due to Dr. W. S. Tangier Smith, of the University of California, for data contained in his "Topographical Study of the Islands of California," and to Mr. L. P. Streeter, Mr. T. McD. Potter, Mr. Alfred L. Beebe, and the Hon. C. G. Conn, for facts relating to their remarkable catches.

C. F. H.

PASADENA, CAL.
December 22, 1909.

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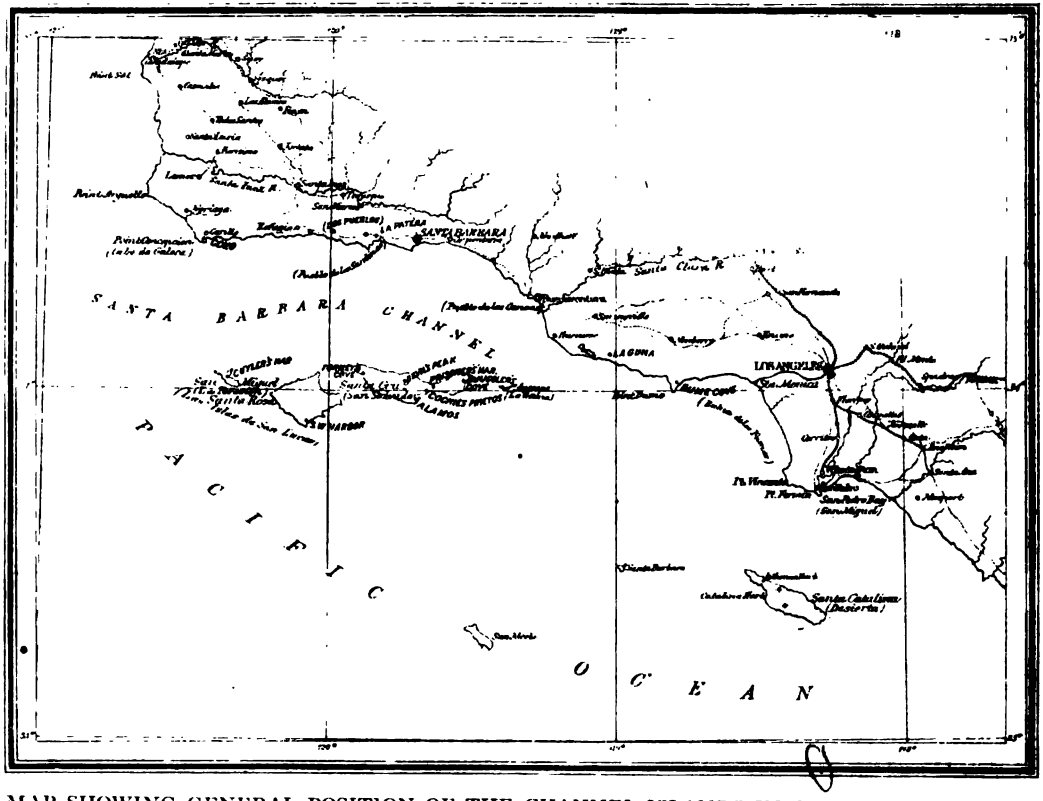


MAP SHOWING GENERAL POSITION OF THE CHANNEL ISLANDS IN THEIR RELATION TO LOS ANGELES

THE CHANNEL ISLANDS OF CALIFORNIA

CHAPTER I

THE CHANNEL ISLANDS

TO those who "go down to the sea in ships" on the Southern California coast, the islands, which are strung along the shores from fog-swept San Miguel, near Point Concepcion, to Los Coronados, appear like off-shore Sierras. When the coast range of California was thrust up, and the great sea bottom became Los Angeles, there was, in all probability, a general upheaval all along the coast, and another Sierra endeavored to take shape and form about eighteen miles out at sea.

We have the evidence of this attempt (though the matter of time may be in doubt) in the summits of these several islands, which rise suddenly and precipitously from exceedingly deep water, often five thousand feet, and range in size from Santa Barbara Rock, of a few acres, Begg's Rock, of less, to Santa Catalina, which is twenty-two miles long and contains over fifty thousand acres. In a general way, the islands extend southeast, and have a northern and southern exposure, with an east and a west end. Yet good harbors are rare, most of them being mere indentations in the coast, or the mouths of large and deep cañons, cut by the rains of centuries, against which

the ocean has thrown up sand and pebble beaches—which make eternal music—the castanets of the sea.

There are about twenty of these islands or mountain tops. Some are but a few hundred feet high; others, like San Clemente and Santa Catalina, have peaks from five hundred feet to half a mile in height, forming mountains of the sea, rising from the abysmal regions about them. If we could imagine the sea suddenly withdrawn they would take shape as marvellous mountains rising from the continental slopes that drop down into the depths of the Pacific, which average three and a half miles.

The islands are just near enough to the shore to afford an agreeable diversion in reaching them. Several are government possessions, and belong to the people; while others again are private property, the owners of which have a sentimental interest in them, and use them for the primitive purposes of cattle ranching, as Santa Rosa; grape growing, Santa Cruz; sheep ranching, San Clemente and Anacapa. As to Santa Catalina, most of its vast acreage is a sheep ranch and wild goat range, with one cañon at the east end, given over to the public, and literally filled by the attractive town of Avalon, with a summer population of seven or eight thousand, and a good-sized winter permanent contingent, attracted and kept here by the really wonderful climate, the lack of change, and the ideal conditions which prevail, where the elements are at rest and the disagreeable things of life at their minimum.

The islands all differ in some way, and have different climates, and each island has several kinds of

climates. Thus, Avalon Bay rarely, if ever, experiences frost. I have seen very fair bananas grown here. The summer is cool, and the winter but slightly cooler; yet in February, in two hours' climb, one may reach Middle Ranch, where there is frost on cold nights. Again, the north side of the island is free from winds — a place of calms, so that its waters have the charm of an inland lake; yet a ride around the island to the southwest coast brings you to a region where the surf piles in, and the strong west wind makes itself felt a part of the time.

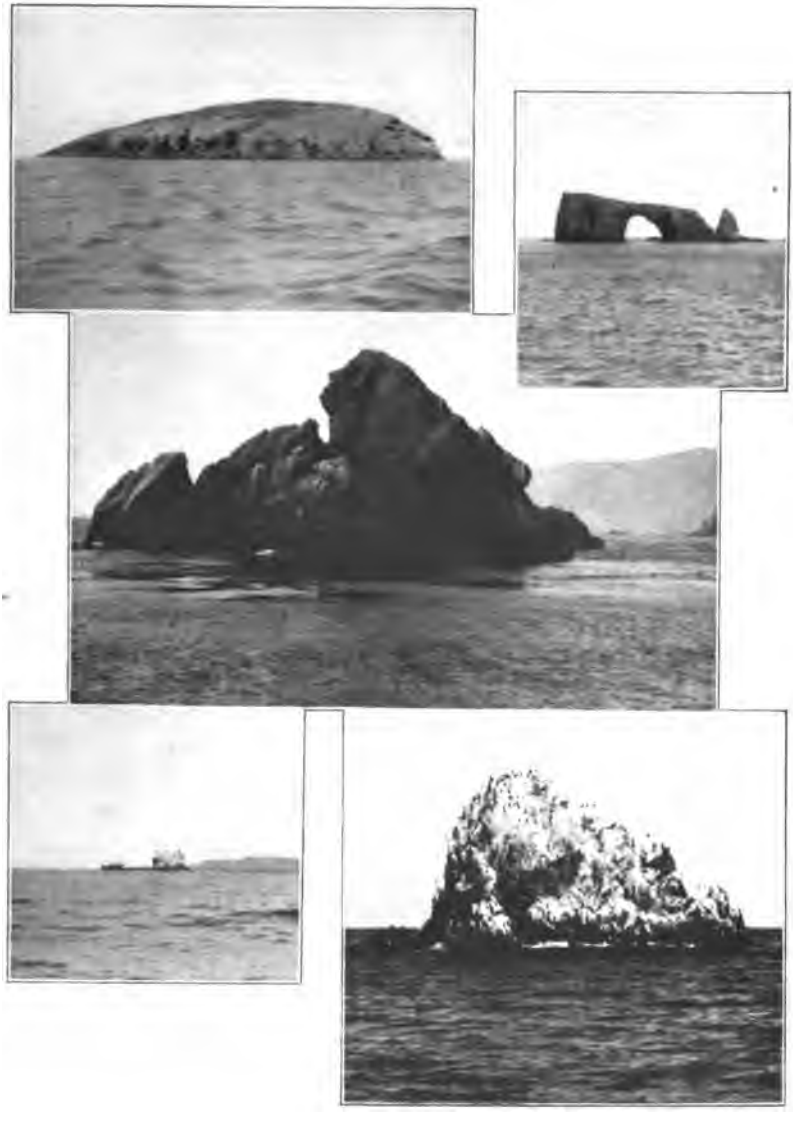
At the Santa Barbara Islands, somewhat similar conditions obtain. Santa Cruz, in particular, is finely wooded for a California island, and abounds in many attractive features. The climate of the group is difficult to describe; one is drawn illusively into overpraising it. With a prejudiced bias perhaps, after twenty-four years among the islands, summer and winter, that I may not draw the long bow, I confine myself to the figures of the government station at the Tuna Club, Avalon, and to records by expert observers at all the islands.

Yet mere figures do not tell the story. I can, perhaps, give the best suggestion of midwinter at these islands by saying that it is like an Eastern October, if you can imagine the flowers in bloom, the islands rich in green. The air is cool, bracing, and sometimes sharp; a fire may be, in fact is, comfortable at night, and one needs Eastern winter attire. At times it seems really cold, yet the hills are draped with ineffable greens, the rich red of the heteromeles berries flashes in the sun, and, in the little gardens on the hillside of Avalon, the rose, jessamine, sweet pea, and all the

delicate flowers bloom in the bright sunlight. Palms of various kinds lend a tropical air; groups of eucalyptus trees fill some of the cañons of Santa Cruz and Santa Catalina, suggesting the warm climes of Australia; yet it is winter on the islands, and, in default of a better name, it is called the "rainy season," though the entire fall of the year is but one-third of that of the city of New York.

The rain is expected in November, but some years does not come until January, and is often not sufficient for the purpose of starting into life the verdure that paints the slopes, in a winter of full rains, when the fall is eighteen or twenty inches. The rains frequently come at night. They are experienced less at the outside islands, as San Clemente and San Nicolás. There is greater moisture at the northern ones, as San Miguel, and, strange to relate, though bathed with fog, it is really the most deserted and sandy. San Miguel lies farthest west. Then come Santa Rosa, Santa Cruz, and the Anacapas — these constituting the Santa Barbara group, with San Nicolás well offshore. In the Santa Catalina channel, opposite Los Angeles, lies Santa Barbara Rock, Santa Catalina, and San Clemente, known as the Santa Catalina group, all about one hundred miles from Santa Barbara. Another stretch of about one hundred miles to the south, and we come to Los Coronados, five in number, and off to the west the submerged remains of two islands — Tanner's Bank and the Shoal of Cortez. All have this winter of semitropic verdure in varying degree. San Nicolás is very windy; while for days it lies in calm seas, bathed in the rays of the warm sun, the wind gods are only sleeping.

THE SILVER FOG POURING DOWN THE ISLAND MOUNTAINS, SANTA CATALINA ISLAND



THE SMALLEST OF THE CHANNEL ISLANDS

White Rock, off Cabrillo — Cabrillo's Arch, off Anacapa — The Sphinx (Church Rock), off Santa Catalina — Chimney Island, San Clemente — Ship Rock

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The winter among the islands really lasts from the first rain until a few weeks after the last; or from December until April. Then the sun grows warmer, the verdure produced by rain, such as the grasses, dies down, but the bushes — the chaparral with which most of the islands abound — are always green. The days grow warmer, the average for summer being 65°; that of winter 54° — the difference of eleven degrees being, in itself, a climatic feature to attract attention. The so-called trade wind now becomes fixed, blowing every day and giving a continual cooling breeze to all the coast. Fogs may be expected. They form out beyond the islands somewhere, and may be seen coming in, in long attenuated streamers and banners, as night comes on, filling up the valleys of the coast with great tumultuous seas — a splendid sight from the top of the Sierras, the islands, or the mainland. Without these fogs, California would be a teeming desert. They are enjoyed and welcomed by the people; they mean life and comfort, and when they cease, in September or October, for a short time warm weather may be experienced. But so finely, so evenly, is this adjusted by nature, that the uncomfortable days are rarely more than two or three at a time, and two such "hot spells" in a summer, at these islands or along-shore, are considered strange and abnormal.

It is for this reason that the claim has been made that this region — and with the islands I include the mainland shores for thirty or so miles inland — is as nearly perfect, climatically, as one can find in the world. It is not perfect in the strict sense of the term — such a place does not exist — but it has more advantages,

and less disagreeable features, than any country I know or have heard of.

I was standing at Avalon Bay once, when a singular cloud appeared. A tourist remarked that we were going to have a thunderstorm. "Oh, no," I replied, "they never have anything of the kind here." Almost immediately a bolt of lightning struck the building and literally scattered the shingles at our feet. That was the first thunderstorm I had known here in eighteen years, and in twenty-four years in Southern California, I doubt if I have seen more than four or five electric storms where lightning struck nearer than five miles.

The Spaniards discovered the islands, and in those early days — 1542 — they were all inhabited. That existence was easily maintained is evident to-day in the extraordinary wealth of animal life. The waters swarm with shell fish, tons of abalones (*Haliotis*), which constituted the principal food of the aborigines, being taken. Fishes of varied kinds are found everywhere, and the big game fishes, taken with rod and reel, made the islands famous years ago, and they are now the Mecca of sportsmen and anglers from all over the world. The angling is so remarkable that it is difficult to convince the stranger and layman that it is not a joke; yet the evidence is found from Santa Barbara to San Diego all alongshore.

All the islands are bathed by the mysterious Black Current of Japan — the Japanese Gulf Stream, the *Kuro Shiwo* — which sweeps up that coast from the south, crosses to Alaska, then flows down the Californian coast. It is incomprehensible to many that this current does not produce the balmy climate of the Channel Islands in winter, and the always cool and

delightful days of summer, yet the professional meteorologist who prognosticates the weather tells us that the *Kuro Shiwo* has nothing to do with it, the great expanse of the ocean being the moderator. But there is such a thing as being too climatically scientific, especially with the weather, and I confess it is much more interesting to believe that the *Kuro Shiwo* modifies the climate, gives the entire Pacific Coast its iceless winters, and a climate that has all the charm of the Riviera without its chill, all the beauty of Madeira without its heat.

CHAPTER II

THE DISCOVERIES OF CABRILLO AND VIZCAINO

IT is my private opinion that the Japanese discovered the Channel Islands — or it may have been the Chinese — though this is rank heresy in California, as Cabrillo is the patron saint of discovery. I cannot forget a map of the Pacific Ocean, which Professor A. S. Bickmore (the founder of the American Museum of Natural History) made some years ago, in which he displayed the latitude and longitude of the Chinese junks which had been blown offshore and picked up during heavy gales in recent years. They were located all over the Pacific, some very near our shores. The record could not have been over fifty years old, so I assume that the Chinese, Japanese, and others, have been in the habit of being blown offshore for ages, and that many reached this country in this way, or by the Aleutian Islands, and may have been the forefathers of the Indians of this coast, not to speak of the Eskimos. If one has the opportunity, it is interesting to compare a mixed lot of Japanese faces with Eskimos, and a similar collection of Chinese coolie (Canton) faces with those of our west coast Indians. The comparison is suggestive, if it has no other value.

But whether the Chinese or the Japanese discovered the islands, the Spanish, the splendid *voyageurs* of the last centuries, claim it, and Captain Juan Rodriguez

Cabrillo, a Portuguese navigator in the service of Spain, is accorded the honor.

A number of years ago, some one was hunting over the old manuscripts of a public library of Madrid, and, with the very best of luck for a landsman, came upon the log of Don Juan Cabrillo. He sent it to our Government, hence I am able to quote some of it, or that part relating to the alluring islands of the channels of Santa Barbara and Santa Catalina. Cabrillo —who, to my knowledge, has not even a statuette in California, much less a bust large enough to rest on a pedestal, to the sorrow of some of the people — was a gentleman of the sixteenth century, who, in 1542, accepted the service of his august majesty, Charles of Castile and Aragon, and sailed for America, to add by conquest, or peaceful acquirement, lands of any kind, and souls. He reported to Don Antonio de Mendoza, who was then Viceroy of New Spain, and became one of the many believers in the mythical "Straits of Anian," supposed to be far up the coast and to lead the navigator around into the Atlantic.

So firmly was this idea intrenched in the minds of the navigators of that time, that it becomes more than a suspicion that some data allied to fact must have been behind it. We are prone to forget, in our theorizing, that the earth is old, that man has lived tens of thousands of years — millions, more than likely — and that while the Pacific Coast was not known to the Spaniards or the Britons, other nations had doubtless sailed its waters, found Bering Strait, and wandered into the Arctic and become Eskimos, countless ages ago. And so the "Strait of Anian" idea may have come down the ages, founded on Bering Strait.

Be this as it may, in the sixteenth century the Spaniards had heard of it from some one and were intent upon finding it, as were the many martyrs to the pole. That gallant gentleman, Cortez — the Columbus of the Pacific — had equipped several expeditions before Cabrillo, and as early as 1522 had established a shipyard as a base of supplies at Zacatula, Mexico. One of his caravals, under Pedro Nuñez Maldonado, reached the Sandiago River in 1528. Nuño de Guzman reached San Miguel, on the coast of Sinaloa, and in 1532 Cortez, for whom the Gulf of California was named and should be called, sent north from Acapulco two ships under Diego Hurtando de Mendoza, and Juan de Maznela.

Hurtando discovered the harbor of Tobari, near the mouth of the Yaqui—which I know well—marched up into the interior, and explored the delta of the Yaqui, one of the richest lands not only in Sonora, but in all Mexico. He was wrecked in the Sea of Cortez. Another of the men of Cortez, Fortunio Ximines, is said to have discovered the peninsula of Lower California, and many old maps tell an interesting story of the energy and gallant qualities of these men. In 1535 Cortez sent a new fleet north, and La Paz was gained to the map-makers of his Majesty of Castile and Aragon.

We now first hear of the name California and for years after it was supposed to be an island. In 1539 an old captain of Cortez, one Francisco de Ulloa, reached up the coast as far as Cerros Island before he was forced back. And so the fight for the north went on, until the time of Cabrillo, who, in 1542, made the first successful trip up the coast as far as

the Channel Islands off the present counties of Los Angeles, San Buenaventura, Santa Barbara, Orange, and San Diego, leaving to posterity an account of his travels under the title of "Viaje y descubrimientos hasta el grado 43 de Latitud," to be found in the "Archivio General de Indias," of Spain.

The Log of Cabrillo has a sentimental interest, and when it is known that the vessels of the time were little more than smacks, and by no means seaworthy, and that part of the coast was waterless and barren in summer, the efforts of all the navigators, and of the good *padres* who accompanied them, are deserving of the highest recognition and honor. California was discovered only after repeated losses of ships and men, and the "king's highway" of the Pacific is paved alongshore with good Spanish ships, as well as with good Catholic intentions.

Cabrillo sailed into what is now Avalon Bay, Santa Catalina Island, in September, 1542, four hundred and sixty-seven years ago. His caravels, which were named *La Vittoria* and *San Salvador*, cruised about the vicinity for a number of months. Cabrillo dying, he was buried at San Miguel Island, though why he should winter in such a dreary place, when the land-locked harbor of Santa Catalina afforded perfect protection, and San Diego was not far away with a perfect refuge, it is difficult to understand. Cabrillo named San Clemente Island "La Vittoria," and Santa Catalina, "San Salvador," after his ships; but these names were forgotten, and the present names were given by Vizcaino many years later. Ferrelo was the pilot of Cabrillo, and Juan Paez is the name found on the Log; hence it is possible that he may have written it. The

famous Log is complete from the time of sailing, but it is very voluminous, hence only that part relating to the Channel Islands is quoted. It gives an excellent and interesting illustration of the style and methods of the valiant geographers of the sixteenth century, and while there is some uncertainty as to the exact locations intended, the navigator of the Pacific Coast to-day, or the layman familiar with the islands, readily recognizes the places referred to in the quaintly worded Log.

It is interesting to compare the old maps of California made by the navigators, explorers, priests, and soldiers from the time of Cabrillo, in which are pictured the Channel Islands. All show some or all of them, and some so very many, and with so great uncertainty about the descriptions, that one can well imagine that Tanner's Bank and that of Cortez (see Chapter XVII) might then have been above water, or that within four hundred and fifty years, islands which then existed, have disappeared. There is no good reason for believing this, and the islands of the coast of California have, doubtless, not materially moved up or down for thousands of years. On one old map, of 1670, the coast line is fairly correct below Point Concepcion. The great indentation of Santa Barbara is shown, and the islands of San Miguel, Santa Rosa, Santa Cruz, and Anacapa. San Nicolás is given a fairly accurate position, and Santa Catalina ("I. S. Cathalina") is drawn as perfectly as though done to-day; but San Clemente is swollen out of all proportion, doubtless being described from hearsay. Between San Clemente and the mainland, the mapmaker inserted four small islands which are not known

to-day, the one to the south being "I. S. Marco." Possibly these were what are now called the Coronado Rocks. Below this was a vast island, "I. de Parraros."

On the mainland this interesting map shows New Mexico and Zuñi, Acoma, Cibola, Moqui, and other Indian towns, many hundreds of miles to the south of their correct position, in what is now Mexico. The Gulf of California, on this map, is called "Mare Verméro." This is one of the most interesting maps of California, and is remarkably correct when we consider the facilities which the early Spaniards had for exploring the coast.

A map dated 1787, while crude, is very correct, showing the missions established by Fr. Junipero Serra. The harbor of Ensenada is pictured much larger than that of San Diego, but the general trend of the coast is correctly, though crudely, indicated. When we reach what is now Los Angeles County, latitude thirty-three and one-half, curiously enough, the islands of Santa Catalina, San Clemente, and San Nicolás are omitted, though at that time they sustained a large and vigorous population, well known to the *padres*. At Santa Barbara but three islands are shown — doubtless San Miguel, Santa Rosa, and Santa Cruz. The omission of Santa Catalina, San Clemente, and San Nicolás Islands on the map (1787) is interesting, as they were well known, as shown by the notes in the several histories of this early period. One of the most interesting references to the islands is found in a history of California and the Southwest by Fray Geronimo de Zarate Zalmeron, covering the period from 1538 to 1626. He refers as follows to the arrival of Sebastian Vizcaino:

"They reached a bay, a good arrangement of the land twelve leagues north, away from the mainland. It is called Isle of Santa Catarina [Santa Catalina]; and before reaching it they espied another greater one, southwest of this of Santa Catarina. The inhabitants of the island made great rejoicings over the arrival of the Spaniards. They are fishermen, using boats of boards; the prows and poops high and the middle very low. Some will hold more than twenty persons. There are many sea-lions, the which the Indians hunt for food; and with the tanned skins they all cover themselves, men and women, and it is their usual protection. The women are very handsome and decent. The children are white and ruddy, and very smiling. Of these Indians, many wished to come with the Spaniards; they are so loving as all this. From here follows a line of islands, straight and orderly, at four to six leagues from one to another. The length of all these islands is one hundred leagues. All have communication with one another, and also with the mainland."

An interesting map shows the exact route of Francisco Vasquez Coronado (a friend and confidant of Antonio de Mendoza, first viceroy of Spain), on his famous expedition to the "seven cities." There were two hundred picked mounted lancers, many in armor; and in the train were a thousand men of various nationalities; and all in all, over one thousand horses — a splendid force for the time (1540). Coronado had been led to make the expedition by rumors of vast wealth in the alleged "seven cities" of Cibola, which were supposed to be the depositories of vast stores of gold and silver. What the feelings of Coronado were when he found the famous "seven cities" to be mere adobe *pueblos*, undoubtedly like those of Zuñi to-day, can better be imagined than described. After a fierce engagement he captured Cibola-Zuñi, and, finding nothing of value but corn, he continued on to the

MAP OF CALIFORNIA SHOWING THE CHANNEL ISLANDS
Made in 1656, evidently from Cabrillo's log

Moqui towns of Arizona, while later, another party advanced upon Tusayan (Moquis) a second time, and by the aid of the natives discovered the Grand Cañon of the Colorado, in about latitude thirty-five — thus, doubtless, being the first white men to gaze on this abyss which has challenged the wonder of the world.

From the natives, Coronado heard of other cities, and, loath to relinquish the search for gold, traversed a large area of country reaching about forty degrees north latitude, or South Nebraska, between Leavenworth and Omaha. A portion of his expedition reached the location of El Paso, Texas, and, after examining a large area, and really accomplishing much as a geographer — marching over untold millions of gold and silver that were to be discovered by the men of the nineteenth century, finding absolutely no wealth, nothing but the squalid towns of natives, and the ancestors of the present Indians — he returned to Mexico in 1542, as the historian says, "very sad and very weary, completely worn out, and shamefaced."

The journey of Coronado was in every sense remarkable, and while his search for treasure — a golden fleece, as it were — was fruitless, history will give him place as one of the great travellers and explorers. The natives of Santa Catalina Island, found by Cabrillo when he took possession as the discoverer of California, all had heard of Coronado and his men "with beards."

In the years following Cabrillo, the Channel Islands were doubtless visited by many adventurers in search of fame and fortune. Drake, Woods, Shelvocke, Rodgers, and others may have found shelter in the little bay of Avalon, or in the lee of any of the islands

during the heavy southwesters of the winter season. Of such there is no definite record, although, in making a systematic examination of the ancient burial-places, I found a remarkable assortment of European objects, from large iron implements to Venetian beads and bell clappers, showing that there had been a variety of visitors.

In 1598, about sixty years after the voyage of Cabrillo, Philip the Third was King. He had all the desire of his predecessors for conquest, and ordered the Viceroy of New Spain, Caspar de Zuñiga Conde de Monterey, to equip an expedition, which sailed from Acapulco under the command of Sebastian Vizcaino, May 5, 1602. The latter was a navigator of great renown, and his title was "Pilot of the waters of New Spain." He had first come up the coast on a search for pearls, in 1595, and landed at La Paz, the great pearl station, where he built a barrack, established his men, and erected a mission, as the adventurers were all good Catholics, and each ship invariably carried a priest, or several, who displayed a devoted spirit and accomplished marvels.

The Monterey expedition was sent out to establish a refuge for ships in the Manila trade near Cape Mendocino. His fleet was composed of three vessels, and in his party was the cosmographer, Geronimo Martin. Vizcaino sailed into what is now Avalon Bay, Santa Catalina Island, the twenty-eighth of November, 1602, giving the island the name from the saint day of his arrival, ignoring the native name "Pimugna" and the previous naming of Cabrillo. The latter name, and that of San Clemente (Kinkapar) have held until to-day.

Vizcaino was a notable pilot and made his observations with such care that Humboldt says of him in his "Essai sur le royayme de la Nouvelle Espagne," "No pilot has ever performed his duty with such zeal." After leaving Santa Catalina, Vizcaino discovered Monterey Bay, which he named in honor of the Viceroy. Finding that Vizcaino had been neglected, the author gave his name and that of Cabrillo to a cape and a mountain range, respectively, on Santa Catalina and San Clemente Islands.

Vizcaino's two voyages were well recorded in Spain. The first may be found in the "Monarquia Indiana," by Torquemada, Madrid, 1615; and the second, to California, is described in the Appendix to the French Edition of Miguel Venega's "Histoire de la Californie," Paris, 1767, and in Navarrete's work. Vizcaino described the islands, and referred to the natives as a fine race, dressed in skins, and as having large and commodious dwellings, and numerous *rancherias*. Many of these I have located, it being very evident that Santa Catalina and San Clemente, as well as the other islands, supported a large and vigorous population three or four centuries ago.

He described their boats as large canoes, capable of holding twenty men, and stated that they bartered with the mainland — a fact I have demonstrated by examination of their mounds. Vizcaino also states, that the natives who lived in a town at Avalon Bay showed him some damask cloth, which they said was taken from the wreck of a large ship, doubtless the *San Augustin*, which sailed, in 1595, on a voyage of discovery up the Californian coast under Cermeñon, but was never heard of again.

Torquemada, a brilliant man, the spiritual adviser of the fleet, has left an account of a temple he observed at Santa Catalina that has caused the island to be well searched, but without avail. The temple, which was devoted to Chinigchinich, consisted of a large circular structure, decorated with feathers. In the centre was a hideous idol which I fear the good fathers at a later day may have destroyed. Just what the idol looked like is not known, but Vizcaino tells us that upon its sides were pictures of the sun and moon.

The islands are famous to-day for their ravens, and these birds, according to Torquemada, were sacred, and sacrificed to the god. When Vizcaino's men shot them, the natives were much disturbed. "I believe," says Father Torquemada, "that the Devil was in these crows and spoke through them, for they were regarded with great respect and veneration." He further states, that the birds were so tame that they would snatch fish from the hands of women and children, who dared not resent the attack.

In 1886, when I first knew these islands, these ravens — or their descendants — were the most conspicuous birds, and were extremely tame, sitting around the camps as though resenting intrusion. They made their nests in the cliffs near Avalon, and were very ingenious in stealing the young turkeys and chickens from the ranch of Chicken John, a character of the cañon back of Avalon. When the wind blew, I have seen these birds flying along the cliff on the north side of Avalon Bay, one hundred feet up, turning complete somersaults in the air, like tumbler pigeons, though evidently in play.

CHAPTER III

THE LOG OF CABRILLO

ON the seventeenth of September, 1652, Cabrillo sighted the Coronado Islands, near which is now one of the most beautiful seacoast towns of California. The long beach named for Coronado forms the Bay of San Diego.

Quoting from Cabrillo's Log:

"Sunday, on the seventeenth of the said month, they set sail to pursue their voyage; and about six leagues from Cabo de la Cruz they found a good port well inclosed; and to arrive there, they passed by a small island which is near the mainland. In this port they obtained water in a little pond of rain-water; and there are groves resembling silk-cotton trees, except that it is a hard wood. They found thick and tall trees which the sea brought ashore. This port was called San Mateo [San Diego Bay]. It is a good country in appearance. There are large cabins, and the herbage like that of Spain, and the land is high and rugged. They saw herds of animals like flocks of sheep, which went together by the hundred or more, which resembled in appearance and movement Peruvian sheep, and with long wool. They have small horns of a span in length and as thick as the thumb, and the tail is broad and round and of the length of a palm. It is in 33½ degrees. They took possession of it. They were in this port until the following Saturday.

"Saturday, the twenty-third of the said month, they departed from the said port of San Mateo, and sailed along the coast until the following Monday, in which time they made about eighteen leagues. They saw very beautiful valleys and groves, and a country flat and rough, and they did not see Indians.

"On the Tuesday and Wednesday following, they sailed along the coast about eight leagues, and passed by some three uninhabited islands. One of them is larger than the others, and extends two entire leagues, and forms a shelter from the west winds. They are three leagues from the mainland; they are in 34 degrees. This day they saw on land great signal smokes. It is a good land in appearance, and there are great valleys, and in the interior there are high ridges. They called them Las Islas Desiertas [the Desert Isles].

"The Thursday following they proceeded about six leagues by a coast running north-northwest and discovered a port inclosed and very good, to which they gave the name of San Miguel [San Pedro Bay]. It is in 34½ degrees; and after anchoring in it they went on shore, which had people, three of whom remained and all the others fled. To these they gave some presents; and they said by signs that in the interior had passed people like the Spaniards [Coronado]. They manifested much fear. This same day at night they went on shore from the ships to fish with a net; and it appears that there were here some Indians, and they began to discharge arrows and wounded three men.

"The next day in the morning they entered further within the port, which is large, with the boat, and brought away two boys, who understood nothing by signs; and they gave them both shirts and immediately sent them away.

"And the following day in the morning there came to the ship three large Indians; and by signs they said that there were travelling in the interior men like us, with beards [Coronado], and clothed and armed like those of the ships; and they made signs that they carried crossbows and swords, and made gestures with the right arm as if they were throwing lances, and went running in a posture as if riding on horse-back, and made signs that they killed many of the native Indians, and that for this they were afraid. This people are well disposed and advanced; they go covered with the skins of animals. Being in this port there passed a very great tempest; but on account of the port's being good they suffered nothing [now Los Angeles harbor]. It was a violent storm from the west-southwest and south-southwest. This is the first storm which

they have experienced. They were in this port until the following Tuesday. Here Christians were called Guacamal.

"The following Tuesday, on the third day of the month of October, they departed from this port of San Miguel; and Wednesday and Thursday and Friday they proceeded on their course about eighteen leagues, fifty-four miles, along the coast, on which they saw many valleys and much level ground and many large smokes, and, in the interior, sierras. They were at dusk near some islands, which are about seven leagues from the mainland; and because the wind was becalmed they could not reach them this night.

"Saturday, the seventh day of the month of October, they arrived at the islands at daybreak, which they named San Salvador [San Clemente] and La Vittoria [Santa Catalina]; and they anchored off one of them; and they went with the boat on shore to see if there were people there; and as the boat came near, there issued a great quantity of Indians from among the bushes and grass, yelling and dancing and making signs that they should come ashore; and they saw that the women were running away; and from the boats they made signs that they should have no fear; and immediately they assumed confidence and laid on the ground their bows and arrows; and they launched a good canoe in the water, which held eight or ten Indians, and they came to the ships. They gave them beads and little presents, with which they were delighted, and they presently went away. The Spaniards afterwards went ashore and were very secure, they and the Indian women and all. Here an old Indian made signs to them that on the mainland men were journeying, clothed and with beards like the Spaniards [Coronado]. They were in this island only until noon.

"The following Sunday, on the eighth of the said month, they came near the mainland in a great bay, which they named La Bahia de los Fumos [Bahia Ona Bay; recently named Santa Monica Bay] on account of the numerous smokes which they saw upon it. Here they held intercourse with some Indians, whom they took in a canoe, who made signs that towards the north there were Spaniards like them. This bay is in 35 degrees; and it is a good port; and the country is good, with many valleys and plains and trees.

"The following Monday, on the ninth day of the said month of October, they departed from La Bahia de los Fumos [Santa Monica] and proceeded this day about six leagues, and anchored in a large inlet [laguna near Point Mugu]; and they passed on thence the following day, Tuesday, and proceeded about eight leagues on a coast northwest and southeast; and we saw on the land a village of Indians near the sea and the houses large in the manner of those of New Spain; and they anchored in front of a very large valley on the coast. Here came to the ships many very good canoes, which held in each one twelve or thirteen Indians; and they gave them notice of Christians who were journeying in the interior. The coast is from northwest to southeast. Here they gave them some presents, with which they were much pleased. They made signs that in seven days they could go where the Spaniards were travelling; and Juan Rodriguez was determined to send two Spaniards to the interior. They also made signs that there was a great river [Rio Colorado]. With these Indians they sent a letter at a venture to the Christians. They gave name to this village of 'El Pueblo de las Canoas.' ['The Village of Canoes,' near Buenaventura, 'Pueblo de las Canoas' has usually been identified with Santa Barbara, but the distance places it below that point, while the beautiful valley described certainly does not apply to the location of Santa Barbara, which can scarcely be said to be in a valley at all. The Santa Clara Valley and mountains agree exactly with the description.] They go covered with some skins of animals; they are fishers and eat the fish raw; they also eat agaves. This village is in 35½ degrees. The country within is a very beautiful valley; and they made signs that there was in that valley much maize and much food. There appear within this valley some sierras very high, and the land is very rugged. They call the Christians Taquimine. Here they took possession; here they remained until Friday, the thirteenth day of the said month.

"Friday, the thirteenth day of the said month of October, they departed from Pueblo de las Canoas on their voyage, and proceeded this day six or seven leagues, and passed two large islands [Anacapa and Santa Cruz Islands], which extend four leagues each one, and are four leagues from the continent.

They are uninhabited, because there is no water in them [the account is doubtless in error here; these islands must be identical with others mentioned farther on as inhabited]; and they have good ports. The coast of the mainland runs west-northwest; the country is level, with many cabins and trees; and the following Saturday they continued on their course, and proceeded two leagues, no more; and they anchored opposite a valley very beautiful and very populous, the land being level with many trees. Here came canoes with fish to barter; they remained great friends.

"And the Sunday following, the fifteenth day of the said month, they held on their voyage along the coast about ten leagues; and there were always many canoes, for all the coast is very populous; and many Indians were continually coming aboard the ships; and they pointed out to us the villages, and named them by their names, which are Xucu, Bis, Sopono, Alloc, Xabaagua, Xotococ, Potoltuc, Nacbuc, Quelqueme, Misinagua, Misesopano, Elquis, Coloc, Mugu, Xagua, Anacbuc, Partocac, Susuquey, Quanmu, Gua, Asimu, Aguin, Casalic, Tucumu, Incpupu. All these villages extend from the first, Pueblo de las Canoas, which is called Xucu, as far as this place; they are in a very good country, with very good plains and many trees and cabins; they go clothed with skins; they said that inland there were many towns, and much maize at three days' distance; they call the maize *oep;* and also that there were many cows [elk]. They call the cows, *cae;* they also gave us notice of some people with beards and clothed. They passed this day along the shore of a large island which is fifteen leagues in length; and they said that it was very populous, and that it contained the following villages: Niquipos, Maxul, Xugua, Nitel, Macamo, Nimitopal. They named the island San Lucas [Santa Rosa Island]; it is from this place to Pueblo de las Canoas eighteen leagues; the island is from the continent six leagues.

"Monday, the sixteenth day of the said month, sailing along the coast, they proceeded four leagues, and anchored in the evening opposite two villages [Dos Pueblos]; and also this day canoes were continually coming to the ships; and they made signs that further on there were canoes much larger.

"The Tuesday following, the seventeenth day of the said month, they proceeded three leagues with fair weather; and there were with the ship from daybreak many canoes; and the Captain continually gave them many presents; and all this coast where they have passed is very populous; they brought them a large quantity of fresh sardines very good; they say that inland there are many villages and much food; these did not eat any maize; they went clothed with skins, and wear their hair very long and tied up with cords very long and placed within the hair; and these strings have many small daggers attached of flint and wood and bone [many of which were excavated by the survey party in 1875, from the graves]. The land is very excellent in appearance.

"Wednesday, the eighteenth day of the said month, they went running along the coast until ten o'clock, and saw all the coast populous; and, because a fresh wind sprung up, canoes did not come. They came near a point which forms a cape like a galley, and they named it Cabo de Galera [Point Concepcion], and it is in a little over 36 degrees; and because there was a fresh northwest wind they stood off from the shore and discovered two islands, the one large, which has 8 leagues of coast running east and west [Santa Rosa], but with only 5 leagues of coast running as described; the other has 4 leagues [San Miguel], with only 2 leagues, and in this small one there is a good port [Cuyler's Harbor], and they are peopled; they are 10 leagues from the continent; they are called Las Islas de San Lucas. [The name is here applied to but two islands, but subsequently the whole group appears to have been thus designated.] From the mainland to Cabo de Galera it runs west by northeast; and from Pueblo de las Canoas to Cabo de Galera there is a very populous province, and they call it Xexu; it has many languages different from each other; they have many great wars with each other; it is from El Pueblo de las Canoas to El Cabo de Galera 30 leagues; they were in these islands until the following Wednesday, because it was very stormy.

"Wednesday, the twenty-fifth of the said month, they departed from the said islands, from the one which was more to the windward; it has a very good port, so that from all the

storms of the sea no damage will be suffered by those within its shelter; they called it La Posesion [San Miguel previously, with Santa Rosa, called Las Islas de San Lucas].

"Thursday, on the twenty-third day of the month, they approached on a backward course the islands of San Lucas [the group, collectively, here meant], and one of them named La Posesion [San Miguel]; and they ran along all the coast, point by point, from El Cabo de Pinos to them, and they found no harbor, so that of necessity they had to return to the said island, on account of having these days a very high west-northwest wind, and the swell of the sea was very great. From Cabo de Martin to Cabo de Pinos we saw no Indians, because of the coast's being bold and without harbor and rugged; and on the southeast side of Cabo de Martin for 15 leagues they found the country inhabited, and many smokes, for the land is good; but from El Cabo de Martin as far as to 40 degrees we saw no sign of Indians. El Cabo de San Martin is in 37½ degrees.

"While wintering in this Isla de Posesion [San Miguel], on the third day of January, 1543, departed from this present life Juan Rodriguez Cabrillo, captain of the said ships, from a fall which he had on the same island at the former time when they were there, by which he broke an arm near the shoulder. He left for captain the chief pilot, who was one Bartolome Ferrel, a native of the Levant; and he charged them much at the time of his death that they should not give up the discovery, as far as possible, of all that coast. They named the island La Isla de Juan Rodriguez [Cabrillo]. The Indians call this island Liquimuymu, and another they call Nicalque, and the other they call Limu. In this island De la Posesion there are two villages; the one is called Zaco and the other Nimollollo. On one of the other islands there are three villages; one they call Nichochi, and another Coycoy, and the other Estocoloco. On the other island there are eight villages, which are, Miquesesquelua, Poele, Pisqueno, Pualnacatup, Patiquiu, Patiquilid, Ninumu, Muoc, Pilidquay, Lilibeque. [The sites of many of these have been examined by the author.]

"The Indians of these islands are very poor. They are fishermen; they eat nothing but fish; they sleep on the ground;

all their business and employment is to fish. In each house they say there are fifty souls. They live very swinishly; they go naked. They were in these islands from the twenty-third of November to the nineteenth of January. In all this time, which was almost two months, there were very hard wintry storms on the land and sea. The winds which prevailed most, were west-southwest, and south-southwest, and west-northwest. The weather was very tempestuous."

CHAPTER IV

THE ANCIENT ISLANDERS

WHEN I first visited the island of Santa Catalina, the vicinity of the Hotel Metropole, was represented by a spot so black that it could be seen a long way offshore. It was a "kitchen midden," a deposit on which the aborigines had lived for ages, cooking on it, and having their camp-fires, until the soil was thoroughly blackened. In this were buried their household belongings of stone and shell.

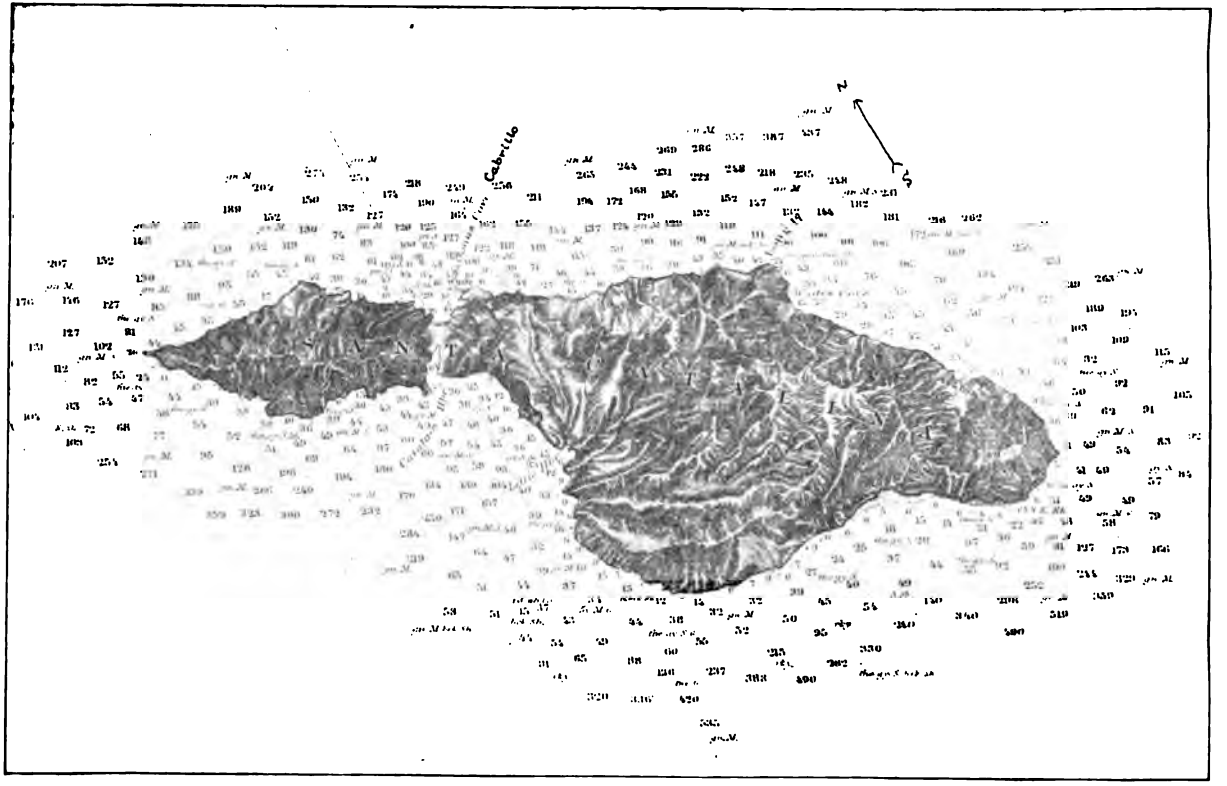
When a trench is dug in any part of Avalon to-day, especially along the north beach, shells, implements, and ancient human bones are often found, and the black earth crops out, telling the story of one of the most interesting ancient archæological treasure-houses in America. Literally tons of mortars, pestles, and implements of various kinds were taken from here in the seventies. Professor Schumacker of the Smithsonian Institution first investigated the island in the early seventies, and, with "Mexican Joe" as skilled excavator, found a vast treasure in stone, shell, and bone. English and Germans followed, and many fine collections were secured.

The remains are doubtless nearly all of the fifteenth century; and some possibly thousands of years old. Every cañon having a beach on the north coast, I found, in 1886, had its ancient town-site — some large,

some small — the finest being at Cabrillo, or the isthmus, now mostly covered by stables. In 1887 I trenched this with Mexican Joe and Dr. William Channing of Boston, and worked down through four or five layers of graves. The upper ones dated in all probability from since Cabrillo's time, as in them I found Italian beads, bell clappers, files, mattocks, and copper wire. The iron mattocks were evidently highly valued as they had been carefully wrapped in cloth and buried with the owners; the cloth had literally turned to iron. This was by far the most interesting deposit on the island, a typical graveyard. The lower graves contained no metal — nothing but stone, bone, and shell implements, showing that the natives had had no bartering with the whites, and ante-dated Cabrillo.

I have located many ancient town-sites on Santa Catalina. One was at Empire, one at Howland's; there is another on the coach road, a mile beyond Eagle's Nest; and, not ten minutes' walk from the latter, up the hill and on a great divide extending down from Black Jack, and near the summit, is a typical cave of the Stone Age. When I first saw it, its entrance was choked with cactus growing on a heap of abalone shells (*Haliotis*) which had been brought up from the sea a mile or more. The cave is large and deep enough for a small family, and faces the south. On the side were red marks, a sign of some kind. Near this cave was a smaller one, doubtless used as a kitchen, and the smoke on the rocks could still be seen.

The cave was two or three hundred feet from fresh water. In and near it I found a number of interesting implements. At Little Harbor, a few miles north,



MAP OF SANTA CATALINA ISLAND IN SANTA CATALINA CHANNEL

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I located several town-sites, and smaller settlements at various places, the implements found showing a people of more than ordinary intelligence and taste. No record has been left of the names of these towns on Santa Catalina, though those at Avalon and Cabrillo were very large and important.

For these natives the island was a paradise, abounding in marine game of all kinds, crayfish, abalones, and other shells by the ton. The vast deposits of these shells show how important a feature of the life they were. In the mounds I found tuna skeletons, limpets, four species of abalones, cone shells, bones of sea-lions, dolphins, whales, seals, and sea-elephants, showing that the natives were all-around fishermen.

At San Clemente I found numerous town-sites, and the great and beautifully chiselled sand dune on the southwest side has been a treasure-house to the ethnologist, and will be referred to in the chapter relating to the island.

So with the northern islands. Savages the natives doubtless were; yet a savage who could make some of the beautiful *ollas* and spear heads or beads I have seen, stood high in the ranks of savagery. At San Clemente, one find I saw Mexican Joe carefully cut out of the damp sand from near a man's skeleton, was a flute, made from the leg bone of a deer. The native had covered it with bits of beautiful pearl (abalone), fastening each piece on by asphaltum, the result being a rude mosaic. It was difficult to consider this æsthetic musician — whom we dug out carefully and sent to the Smithsonian — as very much of a savage. He was buried in the sand dune in a sitting position, his

arms bound to his knees, on which rested his head, while in front, behind, on each side, and over him were flutes, each carefully placed, and bearing the beautiful abalone mosaic. Here rested some savage Mendelssohn of the Isles of Summer.

Exactly when the islands were deserted is not known. I believe the people to have been decimated in wars, by the Russian otter hunters, and by disease; the last natives were doubtless taken off by the Fathers and distributed about the missions, in the early part of the nineteenth century. San Nicolás had native inhabitants as late as about 1830, and the last woman was taken off in 1851.

Vizcaino found many languages among the tribes of the islands, and this was a singular feature of all the well-inhabited regions of the coast. Every few leagues would be found a different tribe, and a different dialect. I give it as my opinion, that the natives of San Clemente and Santa Catalina spoke the dialects of the natives about the missions of San Gabriel, San Juan Capistrano, and San Luis Rey, as the missions were opposite the islands, and I have seen mortars of steatite at all these towns, or *rancherias*, which came from Santa Catalina. There were three languages, as spoken at the towns near these missions — *Kizzh*, *Netela*, and *Kechi*.

Netela was the dialect of San Juan, which is almost opposite the east end of Avalon; and that the natives crossed here in their large canoes is beyond question. This route was the smoothest, a canoe striking the lee of Santa Catalina nearly twelve miles offshore, or halfway over. This language suggests Sonora and the Aztecs in its idioms. The following is the Lord's

Prayer in *Netela*, the language the natives of Pimugna (Santa Catalina) doubtless spoke.

THE LORD'S PRAYER

Chana ech tupana ave onench otune a cuachm, chame om reino, libi yb chosomec esna tupana cham nechetepe micate tom cha chaom, pepum yg cai caychame yi julug calme cai ech. Depupun opco chame chum oyote. Amen Jésus.

Each island of the group is said to have had its own dialect, which, doubtless, is true. At the mission of San Miguel, a list of words in the dialect of the island of Santa Cruz and San Miguel was found, a few examples of which may be given to show the extraordinary difference:

ENGLISH	SAN MIGUEL ISLAND DIALECT	SANTA CRUZ ISLAND DIALECT
man	*loguai*	*alamuün*
woman	*tiene*	*hemutch*
father	*tata*	*ceske*
mother	*apai*	*osloe*
head	*tobuko*	*pispulaoah*
one	*tohi*	*ismala*
two	*kogsu*	*ischum*
three	*tlobahi*	*maseghe*
four	*kesa*	*scumoo*

Santa Cruz and San Miguel are within sight of one another on a clear day, and within easy reach — the sand from San Miguel often blows to Santa Rosa — yet there was this extraordinary difference in language.

The inhabitants of Santa Catalina are described by Vizcaino as being very intelligent, and much in advance of those of the mainland. They made really beautiful objects, and had in their huts the counterpart of many

of the articles needed by a white. There were hooks, lines, sinkers, balls, rings, needles, awls, toys, money, paint, paint pots, beads, jewelry cases, drinking and other cups, also cups of pottery with ornamentations, such as a snake. There were beautiful arrows, spears, hooks of pearl, long ceremonial stone clubs, lucky stones, and numerous implements whose use is unknown or a matter of speculation.

One paramount advantage these natives had was the steatite quarry at Empire Landing. Here was a soft stone from which they cut their mortars, which they took over to the mainland in their big canoes and sold to the mainland natives. I have seen these mortars, of all kinds and sizes, and some were very attractive. I found several places in the bush where they were made. Some of the mortars had been left half cut off, the plan of the workers being to chip out a mortar with their rude implements until it resembled a ball the size of a man's head or larger, connected by a small stem. This sphere was knocked or broken off, and then hollowed out — doubtless by women — by a tedious process with stone implements, as, up to the time of Cabrillo, these natives had seen no metal. All their objects were of stone, shell, bone, or wood. In a word, the Stone Age, at Santa Catalina, continued in all its purity until 1542. I found the old quarry at Empire Landing, with its myriad of flints and chips, just as though the workers had been driven off and forced to drop their possessions and run. There were half-made mortars, others a third made, still fastened to the rock, almost perfect ones in the bush hard by, while the steatite ledge was covered in places with the scars of mortars which had been successfully removed.

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LITTLE HARBOR, SOUTH COAST, SANTA CATALINA ISLAND

In the Diary of the expedition of Don Miguel Costanso, of 1769, occurs the following interesting reference to the inhabitants of the Channel Islands one hundred and forty-one years ago:

"The Indians in whom was recognized more vivacity and industry, are those that inhabit the Islands and the Coast of the Santa Barbara Channel. They live in *Pueblos* [villages] whose Houses are of spherical form in the fashion of a half Orange, covered with Rushes [*Enea*]. They are up to twenty *varas* [fifty-five feet] in diameter. Each House contains three or four Families. The Hearth is in the middle, and in the top of the House they leave a vent or chimney to give exit for the smoke. In nothing did these Gentiles give the lie to the affability and good treatment which were experienced [at their hands] in other times [1602] by the Spaniards who landed upon those Coasts with the General Sebastian Vizcayno. They are of good figure and aspect, Men and Women; very much given to [amigos de] painting and staining with red ochre their faces and bodies. They use great headdresses [penachos] of feathers, and some *banderillas* [small darts] which they bind up amid their hair, with various trinkets and beads of Coral of various colors. The Men go entirely naked; but in time of cold they sport [*gastan*] some long capes of tanned skins of *Nutrias* [otters or muskrats indifferently, in the Southwest], and some mantles made of the same skins, cut in long strips, which they twist in such manner that all the fur remains outside; then they weave these strands one with another, forming a weft, and give it the pattern referred to.

"The Women go with more decency, girt about the waist with tanned skins of Deer which cover them, in front and behind, more than half down the leg, and with a mantelet [*capotillo*] of *Nutria* over the body. There are [some of them] with good features. These are [the Indian women] who make the trays and vases of rushes, to the which they give a thousand different forms and graceful patterns, according to the uses to which they are destined, whether it be for eating, drinking, guarding their seeds, or other ends; for these Peoples do not know the use of earthenware, as those of San Diego use it.

"The Men work handsome trays of wood, with firm inlays of coral or of bone; and some vases of much capacity, closing at the mouth, which appear to be made with a lathe — and with this machine they would not come out better-hollowed nor of more perfect form.* They give the whole a luster which appears the finished handiwork of a skilled Artisan. The large vessels which hold Water are of a very strong weave of rushes [*junco*] pitched within; and they give them the same form as our *tinigas* [water jars].

"To eat the Seeds which they use [*gastan*] in place of Bread, they toast them first in great trays, putting among the Seeds some pebbles or small stones heated until red; then they move and shake the tray so it may not burn; and getting the Seed sufficiently toasted, they grind it in mortars or *almireces* of stone. [*Almirez* is a brass mortar.] Of these mortars there are [some] of extraordinary size, as well wrought as if they had had for the purpose the best steel tools [*herramientas*]. The constancy, attention to trifles, and labor which they employ in finishing these pieces are well worthy of admiration. [The mortars are] so appreciated among themselves, that for those who, dying, leave behind such handiworks, they are wont to place them over the spot where they are buried, that the memory of their skill and application may not be lost.

"They inter their dead. They have their Cemeteries within the very *Pueblo*. The funerals of their Captains they make with great pomp, and set up over their bodies some rods or poles, extremely tall, from which they hang a variety of utensils and chattels which were used by them. They likewise put in the same place some great planks of Pine, with various paintings and figures, in which, without doubt, they explain the exploits and prowesses of the Personage.

"In their Houses, the Married couples have their separate beds on platforms elevated from the ground. Their mattresses are some simple *Petates* or Mats of Rushes, and their pillows are of the same *Petates* rolled up at the head [of the bed]. All these beds are hung about with like Mats, which serve for decency and protect from the cold.

"The dexterity and skill of these Indians is surpassing in

* Steatite or verde antique *ollas* of Santa Catalina.

the construction of their Launches made of Pine planking [*tablason*]. They are from eight to ten *varas* [twenty-two to twenty-seven and one-half feet] in length, including their rake, and of a *vara* and half [four feet one and one-half inches] beam. Into their fabric enters no iron whatever, of the use of which they know little. But they fasten the boards with firmness, one to another, working their drills just so far apart, and at a distance of an inch from the edge, the [holes] in the upper boards corresponding with those in the lower; and thro' these holes they pass strong lashings of Deer sinews. They pitch and calk the seams, and paint the whole in sightly colors. They handle the [boats] with equal cleverness, and three or four Men go out to the open sea to fish in them, as they have capacity to carry eight or ten. They use long oars with two blades, and row with unspeakable lightness and velocity. They know all the arts of fishing, and Fish abound along their Coasts, as has been said of San Diego. They have communication and Commerce with the Natives of the Islands, whence they get the beads of coral* which are current in place of money thro' all these Lands; altho' they hold in more esteem the glass beads which the Spaniards gave them — and offered in exchange for these whatever they had, like trays, Otter Skins, baskets and wooden plates. More than anything they appreciate whatsoever clasp-knife [*navaja*] or cutting instrument; whose advantages over the [implements] of flint, they admire; it causing them much satisfaction to see use made of the axes and *machetes*, and the facility with which the soldiers, to make firewood, felled a Tree with the said Instruments."

* Doubtless shell (*dentalium*) is meant, as the large coral here is from deep water.

CHAPTER V

THE ISLE OF SUMMER

OVER three hundred years ago, Cabrillo, the famous Captain of Cortez, rounded up his caravel in Los Angeles harbor, then but an inlet, and rode out a southwester there. The recital says, "Being in this part [San Miguel], they passed a very great tempest, but on account of the part being good, they suffered nothing."

Here Dana landed in 1835. His ship was too large to enter the *laguna* and she lay offshore, ready to slip out into the channel and go to sea if the wind rose. In his "Two Years Before the Mast," he describes how the hides were tossed over the cliffs, and carried out to the ships; and his later experiences with the Spanish owners of California.

Another era has arrived, and we see the great harbor of the city of Los Angeles, seventeen miles away, a city of over three hundred and fifty thousand people. The old laguna is now the inner harbor, lined with ships from all over the world; and reaching out into the old anchorage of Cabrillo, Vizcaino, and Dana is a modern breakwater, built by the Government at a cost of five million dollars, beyond which another will go, costing as much more, forming, at old San Miguel (San Pedro), the great harbor of Los Angeles, one of the finest in the world.

It is here — the old port of San Pedro — that the

traveller to the Channel Islands starts upon the ocean voyage. In a half-hour the trip is made from Los Angeles City to its port, either by the electric road, the Southern Pacific, or the Salt Lake Railroad. Waiting at the piers is one of the three steamers of the Wilmington Transportation Company — ocean steamers equipped for any weather or season, and carrying up to eight hundred passengers.

The prow of the *Cabrillo* is turned seaward, and we are soon ploughing the blue waters of the Santa Catalina Channel. The island is distant about eighteen miles, and the trip across in itself a delightful experience. The sky is clear, the water an indescribable blue, the air invigorating; and the genial captain will guarantee that from May to November, perhaps later, not a stormy day, with squall or gale, shall interrupt the programme; while in winter — if winter it can be called — the immunity from storms and bad weather is remarkable.

As the steamer surges ahead, numerous flying-fishes dart from the waves in every direction, to the wonder of the tourist who has never seen a fish eighteen inches long soar perhaps an eighth of a mile. Large whales are seen spouting in mid-channel, and a wonderful array of marine life meets the eye. Soon, the island looms up, like some sleeping monster, and takes the shape and form of a mountain range, twenty-two miles long, adrift at sea — a bit of Southern California anchored offshore; an "isle of summer," even in winter. As its lofty mountains and cliffs grow more and more distinct, and the deep shadows merge into cañons and ridges, the memory of the island's strange history steals upon us. Where we float, the little

caravels of Cabrillo and Vizcaino sailed, and watched the signal-smokes which probably announced their presence from native town to town, from valley to mountain. What mysteries are buried in these deep cañons — what stories the listening waves could tell of the buccaneers and navigators of old!

Higher rise the hills, and deeper grows the blue haze about the island that once belonged to Philip III of Spain, and finally, doubtless, became a Spanish grant to some of the conquerors. Later, to follow its modern history, it was granted by Mexico to Governor Pio Pico, deeded by him to Nicholas Covarrubias, Sr., and was finally purchased by James Lick, who fought the squatters who had established themselves here, defeated them in the courts, and gave it over to herds of sheep and goats.

It was then bought by Mr. G. Shatto, who cut it up into lots, during the great boom of 1885. Then an English syndicate purchased it for the silver in its deep cañons. From them it was purchased by the Banning Company, who control its destinies, though the town of Avalon is owned by hundreds of property owners from all over the country. The entire island is a part of Los Angeles County, and but a little over two hours by fast steamer from the city of Los Angeles.

I first knew the island when it was owned by the Lick estate, and used as a sheep ranch; and its soft winds, its big game fishes, the radiant days of summer all the year around, made a deep and favorable impression, that time has only increased.

There were a few settlers on the island years ago. Others, drawn by the delightful climate, allured by its natural hospitalities, by the perennial summer that

lacked even the changes of the mainland, gathered, one by one, at the little bay, and called it home and Avalon; and so the little town by the Western sea grew apace.

We are very near it now, sailing due south down the channel, with the strong inland wind abeam. Watch the cliffs, how boldly they breast the sea, rising like grim giants hundreds of feet in air, with thick beards of waving kelp at their base. Great slopes of green stretch away; then a glimpse of white beaches, of breaking waves gnawing at submerged rocks; a flash of flying-fish wings; cañons — rivers of verdure — winding their way skyward; and, far away, the tops of the high mountains of Cabrillo, about whose crests float flecks of cloud in the drowsy air.

There is something in the soft wind that speaks of contentment and rest. A butterfly drifts aboard and inspects us one by one — a messenger from the Isle of Summer. We pass a pinnacle of rock, and, on a sea of glass, glide into the little bay, with its perfect crescent beach, its pavilion and hotels, climbing streets and long rows of shops and homes, beyond which the deep cañon winds up to distant mountains that overlook the Western sea.

We have seen that Santa Catalina Island was discovered by Cabrillo in 1542, by Vizcaino in 1602, and there can be little doubt that it has been visited by all the famous voyagers who have come up the coast since, as Avalon Bay is a perfect summer harbor, and the harbor of Catalina, opposite Cabrillo, is equally good in winter, in fact land-locked. On a clear day the island can be seen from the mainland, or from the summit of the Sierras, sixty miles away, lying prone upon the ocean, like some huge Kraken.

The island is about twenty-two miles long, from one to four and one-half wide, and contains about fifty-five thousand acres. It is, in reality, a mountain range out at sea, a marine Sierra, eighteen miles south of Point Firmin on the mainland. The island lies nearly east and west. Near the west end it has a decided cut, and doubtless at one time, ages ago, there were two islands; but this is now an isthmus with harbors on each side — that on the southwest being three-quarters of a mile long and three-eighths of a mile wide, and deep at the entrance. In the general centre, the island runs to a height of twenty-one hundred and nine feet — Mount Black Jack. About it are two other mountains — Mounts Banning and Orizaba — which are prominent landmarks from a long distance.

This great mountain range, for such it is, is cut into innumerable cañons, which are in turn subdivided, so that from the summit of Black Jack an extraordinary scene is presented, cañons and their laterals reaching away in every direction.

Near the east end there is a well-defined range of mountains which years ago I named Cabrillo. I gave the peak at the entrance of Catalina Harbor (north) the name of his great pilot, Bartolomé Ferrelo,* who discovered and named Mendocino; and a cape on the northwest, the name of Vizcaino, that the worthies who came up into an unknown land in so valorous a manner should not be forgotten here.

The island practically has no level land, except in the cañons and at their mouths, consisting as it does of mountains cut by cañons. This has resulted in

* A full account of Ferrelo's expedition is given by John Van Laët.

PICTURESQUE ROCKS

Sugar Loaf Rock, Avalon Bay — The Basaltic Rock, San Clemente Island

THE TOWN OF AVALON

Showing Greek Theatre

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making it a most interesting and picturesque region to traverse by stage, boat, or in the saddle.

The north or west end is fairly low, and marked, as is San Clemente, with a rocky pillar. The north slope is low, with cañons here and there; but the south or west face is grim and forbidding, with rocky precipices, against which the sea breaks heavily in the winter storms — I say winter, as storms in summer are unknown in this Isle of Summer. In sailing down the island one is impressed by the fact that there are few, if any, shoals. The island rises abruptly from blue water. In fact, a ship blown in against it almost anywhere, except at the isthmus, would strike her bowsprit on the cliffs before the keel grounded. Almost everywhere blue water laves the very rocks, or the deep-growing kelp beds which constitute a belt about the island.

Santa Catalina is a big peak rising abruptly from deep water, the one-hundred-and-eighty-fathom curve lying close inshore. Below land-locked Catalina Harbor, on the southwest coast, there is Little Harbor, then abrupt and precipitous cliffs, with here and there a cañon beach, such as Ben ~~Johnson's~~, and Silver Cañon Beach, then a long line of colored cliffs which seem to have been painted by the setting sun. Then comes an isolated rock called "The Church" — with its tower — but more like a lion couchant, or like a sphinx, changing its appearance at every turn of the launch. Around this, and we sight the east end, the Sea Lion Rocks, a famous rookery of these animals, where they are so tame that the glass-bottomed boats go within a few yards of them, and the sea-lions have been photographed hundreds of times. Here the water is smooth

and *green*. Turning the east end, a region of calms sweeps away; the cliffs are lofty and precipitous; deep cañons appear, but fail to break through. Now a long pebble beach slides into view, with radiating cañons, then the Bay of Avalon is passed, and from there, for ten or twelve miles, is the most attractive part of the island. It is the north, but lee shore; and winter and summer, for days, the waters, as far as the eye can reach, will be a sheet of glass, while the Bay of Avalon is always smooth — a miniature Naples, unlike anything anywhere else.

The beach is a perfect crescent about one-third of a mile long, as the crab crawls. At its entrance the water is one hundred and twenty feet deep, and there is good anchorage for yachts and large vessels close inshore, with fifty feet of water. Next to Avalon is Descanso Cañon — the summer home of Mr. Hancock Banning — a deep rift winding up into the Cabrillo Mountains, with lawns and tropical verdure near the beach. From here on, there are a succession of these charming cañons — rivers of verdure, which wind down to little silvery beaches; some with cottonwoods in them, and the upper cañons filled with small trees and brush. One of the largest is White's, a cañon backed by mountains twenty-two hundred feet high, and reached by steep trails. Beyond this is Long Point, which aids in making this entire area smooth, and the great leaping-tuna grounds, which have made this region famous all over the world. Around this point, there are other cañons, and splendid views of hills, mountains, and lofty pinnacled heights. Gradually the island grows lower, until, eleven miles from Avalon, we reach Cabrillo, or the isthmus, again.

This is an attractive harbor or cove, six miles from the west end — a good harbor in southerly weather. Here a town is growing, and the old isthmus is covered with groves of eucalyptus and other semitropic trees. Within this harbor are several small harbors — such as "Fisherman's" — good for small craft, cut in by the waves through a massive deposit of infusorial earth, which, when cut into, gleams white as snow. On the south point of the bay is a singular cave, just at the edge of the water, into which I have passed in a boat. Once inside, a narrow passage is seen, to the right, through which the boat may be pushed, coming out some distance to the north.

Off the isthmus is a flat rock, one hundred and seventy yards in extent; and beyond, three-quarters of a mile, rises a white pinnacle, sixty-six feet high, known as "Ship Rock" — shot up in some remote era as a clot of lava — that is a marvellous imitation of a ship, marking one of the best fishing-grounds on the island coast. This is the only port of the island which can be said to abound in shoals and rocks, and the chart should be consulted; but the entire area can be traversed by large launches without difficulty.

Santa Catalina has been opened up. A remarkable mountain coach-road extends from Avalon to Howland's, five miles beyond the isthmus, and trails and paths lead in every direction, so that it is accessible from nearly every point. Yet so steep are the cañons, so innumerable are they, that visitors are wise to take guides. The stage road from Avalon to the summit is in itself most interesting. It constantly winds about, affording beautiful views of the ocean, mountains, and the great snow-capped peaks of the

Sierra Madre, San Jacinto, San Antonio, San Bernardino, on the mainland, sixty miles away. Along the shore from Avalon, to the east, there is a road leading to Pebble Beach Cañon, filled with rare trees and shrubs; or, one can ascend by mountain roads and so reach the mountains and cañons to the south.

The town of Avalon is unlike any other place in the world. It stands directly on the crescent-shaped bay, at the mouth of a large cañon, which nearly bisects the island here. At the upper end, a mountain ridge, which has withstood the gnawing tooth of time, rises like a grim wall, and gives to this section what is undoubtedly the nearest approach to that anomaly, the "perfect climate." When I first saw this cañon it was a mountain wash, filled with cactus and chaparral. To-day it is a grove of stately eucalyptus trees, which shelter the homes of eight or nine thousand people in summer, and of many all the year around. The town climbs the hills and cañons, the homes adapting themselves to circumstances and the physical conditions. On the front are the large hotels, the Tuna Club, a pavilion for concerts; while up in one of the cañons is a Greek theatre where the Santa Catalina band plays all summer. Up the main cañon are the picturesque golf links and tennis club courts.

Avalon is a remarkable town, inasmuch as it is based on angling with rod and reel. Here yearly is held the greatest convocation of sea-anglers in the world, as they come from everywhere. There are varied allurements, such as the climate and pastimes, but the one thing upon which Avalon is based is the fishing, and everything is subservient to that. The bay is filled with launches and boats of all kinds, devoted to this

sport. There is a fleet of glass-bottomed boats; fleets of rowboats and yachts of the owners who live on the slopes of the neighboring hills overlooking the bay.

The angling interest becomes acute at the south side of the bay, where a long pier leads out into the water — a structure absolutely unique. It is the resort of the professional tuna boatmen. Their stands are arranged along each side, and consist of long boxes, holding rods, reels, and all the paraphernalia of a professional fisherman. Over the stand and seat is the name of the boatman. Nearly all of the older boatmen are well known all over this country and England.

These stands are the offices of the boatmen, and their fine eight- and ten-horse-power launches are at anchor near by. There are three or four landings from this pier, which are reached by stairs, and, having made your engagement, you join your boat here, or at the private dock of the Tuna Club, if you are a member.

At the end of this angling pier are two singular objects. One looks like a gallows, another is a locked scale. On the first, the great game fish — of from twenty to five hundred pounds — are weighed and photographed. In the morning, at noon, and at night this pier is the centre of attraction, as all the fish taken in the tournaments must come in here to be weighed by Vincente Moriche, and other official weighers of the Tuna Club.

Launches are constantly arriving, big fishes being hoisted up, people crowding to see the heroes of the hour land. Fishes are tossed out, big ones weighed, the talk is of three-six, nine-nine, and the big fellows that got away. The photographer, Señor Peter V.

Reyes, and Mr. Baker are on hand, and the "tenderfoot" is photographed standing by his catch, as no one in the Middle West, away from the ocean, will believe such a story without evidence. While the fish are being landed, Ben, the big seal, gives an exhibition of stealing them. On the opposite side of the dock the big glass-bottomed boats, the *Empress* and *Lady Lou*, are landing delighted passengers. Up the beach is a large and finely equipped bath-house, where hundreds bathe daily; and in the centre of the curved beach is the aquarium, where the anglers can study their game before they go out, and see the fishes and marine animals of the Channel Islands alive and in the environment of their choice. They constitute a unique assemblage as many are peculiar to this locality. This zoölogical station has a much larger variety of marine animals than the Naples Aquarium, where American students go. The Banning Company, who built this aquarium, permit accredited students to use it free; various schools have sent their teachers and students here, and the aquarium has provided schools with specimens for study.

Avalon possesses a charm that sooner or later involves the visitor who has a love of nature in his make-up. In the summer there are three boats a day from Los Angeles, and the little bay is filled with gay craft. Now we see a feature of the life. The finest band in the West gives an outdoor concert at the Greek theatre every evening; and at nine o'clock the appreciative listeners follow it to a large dancing-pavilion, where perfect order and courtesy are the most remarkable features. This dancing-pavilion is one of the institutions of the Channel Islands, and it is doubtful if it

GLASS-BOTTOMED BOATS

Small and large

Hauling seine for sardines

Vincente, the Venetian, hauling seine for bait

THE BAIT CATCHERS OF SANTA CATALINA ISLAND

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could be duplicated elsewhere. Avalon is a perfectly conducted city without mayor, aldermen, or trustees, or officers of any kind except the major-domo and police in private clothes.

There are attractive golf links, and up the cañon tennis courts, while horseback riding, coaching, good shooting in season, motorboat races, yachting and boating make Avalon a playground where all the pastimes can be enjoyed. Almost everything has a marine flavor. The polo is water polo; the tug of war is between boatmen in skiffs. Then there is baseball on the water, the base men and the batter standing on small floats. There are swimming and diving contests. Here are seen remarkable divers who meet the boats and dive for the silver and nickels tossed over by the tourist passengers of the midday boat.

The little town along the crescent-shaped beach has nearly every kind of store or shop, but no bank. Its curio shops are unique, with their collections of abalone shells glistening with every hue of the rainbow, with shells, corals, and fishes from all over the Pacific. The tackle stores contain anything in the tackle line to be found in New York, the best rods, reels, and lines. An institution is Parker's, the local taxidermist, who mounts all the fishes for the anglers — from tunas to swordfish; whose room reminds one of Shakespeare's description—walls covered with big, splendid fishes, eyed and eyeless, nothing but fish. From this little shop trophies go all over the world. In the eucalyptus grove is a tent city where hundreds enjoy camping out with the luxury of perfect neatness and the best of sanitary conditions. The sewers lead far out into the ocean; the drinking water is pumped from

distant wells or brought from the mainland, so that the health conditions are perfect.

Climbing the hills and cliffs we may see attractive homes of all kinds, combining to produce a town which has caught the fancy of men and women from all over the world.

There are metals of some kind on all the Channel Islands. Mr. Caire has informed me that very good outcroppings of gold have been found at Santa Cruz; I have not visited the mine or the locality. Silver Cañon, Santa Catalina, suggests the metal once mined here, and according to Mr. L. Parsons, silver mines exist at the Isthmus. A mine in Cherry Valley was worked for some time, and thirty tons of ore, worth one hundred and fifty dollars per ton, were taken out. At Little Harbor many minerals crop out, among them copper, and as a layman, not an expert, I have found this, in a mineralogical sense, one of the most interesting places on the island.

While several mining booms have swept over Santa Catalina, one in 1860, which resulted in every one being sent off the island, Silver Cañon, on the east end, is the site of the only serious work done here. On the strength of the richness of this cañon the island was once sold to an English company. The ore is a galena, bearing a small percentage of gold, according to Mr. Parsons already quoted. This mine has produced about fifteen thousand dollars, the ore being brought out on burros, and it was once sold for fifteen thousand dollars more. The closing of the Indian mints and the drop in silver are given as the reasons why work was suspended, but the expense of getting the ore out doubtless was the true reason. In this era of dirigible

balloons this mine might be made to pay, as an ordinary balloon with a cubic foot capacity of 750,000 feet of gas, propelled by a fifty-horse-power engine, could lift twenty-eight tons of ore at a load out of this cañon and deliver it at Avalon, or anywhere else for that matter, if all we hear about the conquest of the air is true.

Santa Catalina is tunnelled by shafts in various places. One was discovered, accidentally, on Avalon Bay a few years ago, and is now used as an oil storehouse. The next cañon to Descanso bears another, on the beach, and on the west end miners have made numerous caves.

The serpentine, or verd antique, quarries at Empire Landing supply a valuable substitute for marble, and their product is used in many buildings of Los Angeles. The fine fireplaces in the Hotel Metropole at Avalon are made of it, and all over the island ollas, or mortars, have been found, made of this stone by the ancient owners of Pimugna, who carried on an important trade with the mainland in these utensils.

CHAPTER VI

INCIDENTS IN TUNA FISHING

THERE is hardly a really great national sport that has not arrived at its true perfection by slow evolution, and this is particularly true of sea-angling. Some twenty-four years ago, having taken nearly all the game fishes, large and small, of the East Atlantic and the Gulf of Mexico, I strayed over to the island of Santa Catalina. Anglers readily become enthusiastic, but this maze of mountains rising out of a turquoise sea, the quiet bays, the lofty cliffs, made a profound impression on me; and when I saw men throwing cast-lines from the beach and landing fishes weighing from seventeen to forty pounds, more or less, fishes which for strength and game qualities would put the salmon to shame, I made up my mind that I had discovered a fisherman's paradise.

There was one professional boatman on the island, José Felice Presiādo, or "Mexican Joe," whom I engaged, and in his heavy, broad-beamed yawl he rowed me from one end of the island to the other; a thirty-mile pull along the rocky and beautiful shores was a bagatelle to Joe. After landing me on the Avalon beach, where the waters sang musically on the sands, he would row home to a cañon four miles up the coast. At six the next morning he would be on hand again, and we would repeat the trip or go around the south end to the windward.

The fishing-ground this genial Mexican opened up to me was a delight; in my mind's eye I saw the thousands who later would come to enjoy it, and I have lived to see Avalon, on the bay where I cast from the beach, with no spectators except the pelicans, the gulls, and the ravens, with a summer population of eight thousand or more, the hills dotted with cottages and hotels of all sizes and conditions. If the fishing had been in streams it would long ago have been exhausted, but the big game fish are still here, the mild, delicious air, the tender blue of the sky; and, while modernized, Santa Catalina is still the angler's paradise, where one may meet in a season or a year one hundred and fifty thousand persons, among them many Englishmen. Of these, some have made the trip to land a yellowtail, a tuna, or a black sea bass. While Santa Catalina is seemingly several thousand miles from anywhere, it is really not so far from New York and London, and one can decide to-day to go a-fishing there, and from twelve to fourteen days later from London be on the grounds in the midst of the sport, or in five days from New York reach it with equal ease. So much for ocean greyhounds and special cross-continent express trains. Again, the grounds are but a two and a half hours' sail from Los Angeles, a city of 350,000 inhabitants.

Of all the game taken on these splendid fishing-grounds, the tuna is the best known, and some anglers go thousands of miles every season to take it. The tarpon has been caught twenty-five years or more with a rod in Florida, while the capture of the leaping tuna is a recent gift of the gods. It has been my good fortune to have taken many of the big game

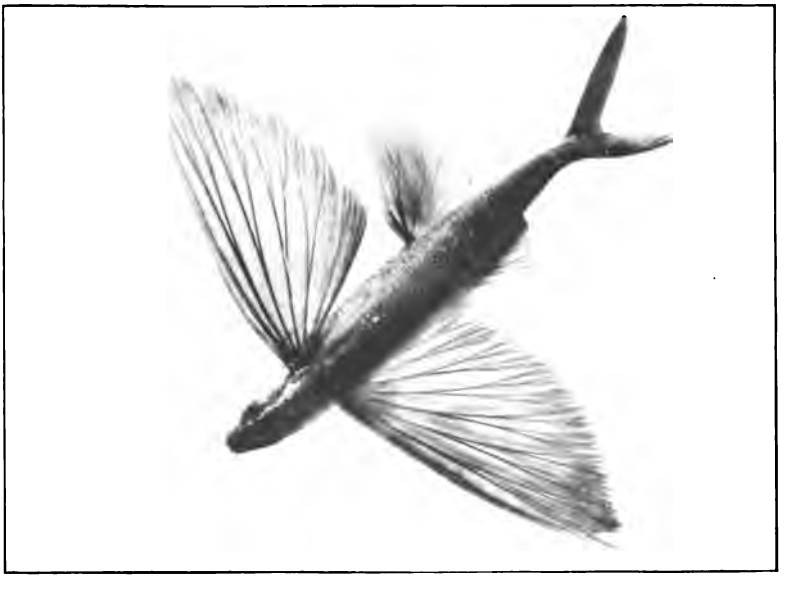
fishes and hard fighters, except the rohu and mahseer that Mr. Thomas describes in India, and it fell to my luck — that ephemeral, evanescent something which Dr. Van Dyke apostrophizes — to kill, under conditions favorable to the game, the first *very large* leaping tuna taken with rod and reel. I had dreamed dreams about this possibility; had seen preposterous and wild-eyed tunas rushing through the hazy stuff that dreams are made of, years before; had seen other anglers, who had not tried so hard nor so long, take the first fish; had hooked them dozens of times; had known strong men to be laid low; had had my six hundred feet of line jerked from the reel with a buzz and a cry that sent the blood to the danger point; and at last I sat, breathless and nearly exhausted, and gazed at the six feet of blue and silver, a type of all that is vigorous and game among fishes; sat and watched the strange far-reaching quiver of the dying gladiator of the tribe that was imparted to boat and men. Four hours before the strike had come; and, as the boatman said, it was one round of four hours, with no "time"; four hours of rushing, pulling, sounding, excitement, and strenuous endeavor. Big tunas had doubtless been caught before; they had been harpooned, caught with ropes, shot, perhaps with bombs, or trapped in nets of rope, but this splendid fish had been tricked and played to a finish, with a line so light that a jerk would have broken it. Technically, in the language of the angler, the line was a number twenty-one. So there were no regrets; the game had been fairly killed, and more than once had had me on what is called the "run."

I believe this fish, which was six feet four inches in

A BIG HAMMERHEAD

Caught with rod and reel by Mr. Paine — Mexican Joe, boatman

A tuna in position as it returns from a leap eight or ten feet in air after a flying-fish



Flying-fish

FISH OF THE CHANNEL ISLANDS

length, and weighed one hundred and eighty-three pounds, was a typical tuna, the embodiment of what is best in the tribe, the hardest fighting game fish known, rich in reserve and force, prolific in expedient, and invested with an inexhaustible supply of that something which, translated, means "dying game." A few evenings ago I heard Major Burnham describe how a large African elephant he shot fought twenty minutes after it had two or three bullets in its heart; it did not give up — the highest quality of courage; and this big fish exemplified this in its every act and move, its last rush or run towing my heavy boat four miles; even when gaffed it smashed and splintered the weapon, and when dragged in, pounded the planking with mighty blows that had a menacing ring.

No one could watch the struggle of this fish and not regret its fall; yet the catch established the fact, not believed up to that time, that the *very large* tunas, up to and over one hundred and eighty pounds, could be caught with light tackle, or a twenty-one-thread line, with a breaking strength of forty-two pounds.

Every angler has had experience with fishes of different power, yet of the same size. I have known a one-hundred-and-thirty-pound tuna to be landed in ten minutes. I have hooked a six-foot tarpon that I could have fought to a finish in less time. Salmon, bass, mahseer, rohu — indeed, all fishes — have their failures, their disappointments; but this tuna represented, to me at least, all that is best in the tribe; and the catch is described as an appreciation of what I believe to be the typical tuna, and not the underfed, spawning, or invalid fish that sometimes falls to the lot of the disappointed angler.

The tuna is a pelagic fish, a free lance, an ocean rover, a sort of swaggering musketeer of the sea, the largest of what may be termed the game or bony fishes, attaining a maximum weight of nearly two thousand pounds, and an approximate length of fourteen feet or more. Such a fish is very exceptional, though specimens weighing fifteen hundred pounds have been taken on the New England coast. I once entered a school of such tunas in the Santa Catalina Channel in a big launch. The school divided to port and starboard as we passed through it, and I had a view of one or two fishes that appeared to be more than half as long as the boat. These fishes spend the winter in warm latitudes, and migrate north as far as the mouth of the St. Lawrence. They are found in the Mediterranean, and north to the Loffoden Islands; yet so far, the efforts of anglers, except at Santa Catalina, have failed to take them with the rod. Even here there is a stretch of but eight miles or so where they can be satisfactorily played and taken with rod and reel. This region lies on the north side of Santa Catalina, from Avalon to Long Point, and to the east as many more, facing the north, and generally smooth — more like a Scottish loch than a fishing-ground twenty miles out to sea.

The tuna comes often in May, but for some unknown reason can usually be counted on only from the middle of June to the middle of August,* and even then is the most capricious and uncertain of fishes. I have had strikes before getting out of Avalon Bay; again have trolled around large schools of tunas that passed the boat in full sight, utterly ignoring me, not a glance

* In 1909 tunas were taken in October.

being cast at the luscious fresh flying-fish dragged across their mouths. Can this be the same fish that yesterday turned the quiet bay into a maelstrom, rushed at anything, and ravished the quiet waters; the fish that bounded ten feet into the air, an insatiate creature, killing for the mere gratification?

It is such qualities that make the tuna profitable game. When it is said that its flesh is palatable, and that no specimens are wasted on the Pacific Coast, the story of the fish is told; and we may see it strike, and follow it on until the gaff is driven home and the tuna fairly bagged.

I fished for the tuna many years before I caught one. I have tried for it in the Atlantic along the New England towns, where you may see the crescent-shaped tail nailed onto the roof of the fish-house as a sign of good luck. I have fished in California, repeatedly lost lines, tips, and have seen another land the first fish; yet the solace came when I brought in one day what appeared to be the limit of angling (rod and reel) possibilities. We pushed out one morning, a friend and I, on a glass-like sea. The east, over the Sierra Madre, was a rich vermilion, and the waters of the bay seemed to reflect it in the centre, while along the shores there were purple shadows melting into green, the colors and tints of the sea grass and weed that in bands and zones covers the bottom of the bay of delights. We had rods weighing sixteen ounces, seven and a half feet long, Vom Hofe silver and rubber reels, splendid machines, made with all the care of a watch, and holding six hundred feet of twenty-one-thread line wet. The leader was of piano wire, about seven feet long; and for six feet more, the

line was doubled for the gaffer to hold while gaffing the fish. The leader is necessary, for a boring fish will often chafe off a line on the sharp finlets of its tail.

The launch is a ten-horse-power, eighteen or twenty feet, broad-beamed craft, built on the island for this particular purpose. The gasoline engine is small and well forward, the anglers sitting side by side in arm-chairs facing the stern; the gaffer stands behind them, where he acts as engineer, baiter, gaffer, and man at the wheel, the latter being on the side of the boat. The engine is started and we move out at a three-mile per hour or more pace, slacking out, overrunning the lines until one hundred or more feet is out, then each angler drops the butt into the leather cap fastened to the chair between his legs, holding the rod at an angle of forty-five degrees, beginning the wait with which all fishing events are associated. At this moment the angler has his thumb on a leather pad that is lashed onto the upper cross-bar of the reel ready to press on the line, this being the brake *par excellence.*

Out we go into the tinted water, by the lofty cliffs, opening up vistas of the island shore. We are lost in the contemplation of these beauties, when out of the sea of steel rises a curious object. It looks like a gigantic dragon-fly standing on its tail, which it is wriggling vigorously; a few seconds later it is clear of the water, and with four big wings set, soars away across our wake — the very luckiest thing that could happen, for every angler knows that the flying-fish has been flushed by a tuna, possibly two, and that they will cross our baits.

Biff, bang, zeeee-zeee, zeee! Do you know the language of reels? — the song, the laughter, the cry of victory from the brass or silver throat? Then you know what this means. Two rods have been jerked down fiercely in a radius of five feet, two reels have cried out suddenly, so loudly that a fellow-angler in the distance raises his hat and cheers for our good luck. The boatman has stopped the engine, and the boat is backing before the fish gets a hundred feet of line, while the thumbs are pressing on the line grinding off bits of leather in a dark red shower.

The song of the reels increases — *zeee-zeee!* Then one stops; the rod straightens, and my companion expresses himself — *his* fish is off. This left me the field and made possible my big catch, though I have several times seen both fishes landed — a rare and difficult operation, as they have the trick of joining forces and fouling the lines. I had hooked many tunas, but never before had failed to stop the first rush in less than three hundred and fifty feet, but this fish kept up the music, *ze-e-e-e*, tearing off the line despite my efforts, until the conviction was forced into my mind that here was a force that nothing could stop, that was surely taking all the line.

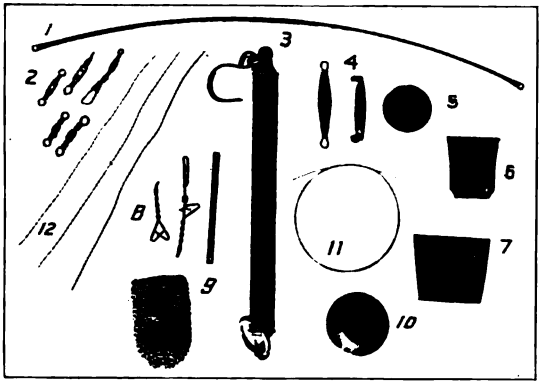
The fish had plunged down into the azure of the channel's heart. There was possibly a thousand feet below us gradually sinking away to the depths of the mighty cañon known as the Santa Catalina Channel, an abyss so deep that it falls under the popular head of "no bottom," among the alongshore men and toilers of the sea. I followed the thread of a line down into these deeps, saw the beauty of its color, its vivid intensity, caught the tracery of a myriad delicate forms,

of jelly-fishes — the fairy Beroë, the pellucid Cassiopea, the lavender Rhizostoma, the Circe, the Geryon, the Tima, and others — cut by the knife-like line. The ocean was filled with these fairy craft, through which the tuna was rushing down the slopes of this mountain of the sea.

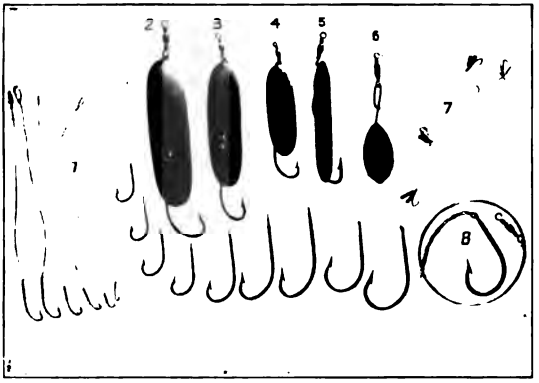
The launch was moving at half speed astern to give me a chance to stop the game, but it seemed impossible. Too much effort would have broken the line, which was tested to a dead pull of but forty-two pounds, and when the bursts of speed came the pressure had to be decreased, changing the cry of the stricken reel. Now the tip of the rod would be jerked violently down, always bent; now trembling, telling that the game was shaking its head in an attempt to throw out the bait. Four hundred feet had gone — I knew it, as the line was marked with red silk at every fifty feet, and I had seen eight flashes of crimson melt into the blue. Another span went out to the grinding *zee-e-ee-e-e-e-e* of the reel, and there was but twenty-five feet more on the spool; the occasion demanded a special effort, and I called on that line and rod as you and I have called on a good horse in a hard cross-country run after the hounds. Will it respond? The *ze-e-e-e* is grinding out its notes, and becomes a groan; the leather pad is worn through an eighth of an inch, the rod bends to the danger point — saints of Bathbara protect us! and —

"You've got him, sir," comes a whisper over my shoulder from the boatman.

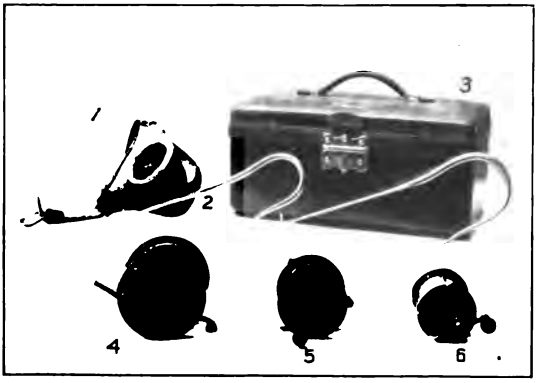
I had stopped the running line, held it hard, and witnessed that always recurring miracle in tuna fishing, — one which some anglers who have not witnessed it



1, Leader
2, Swivels
3, Scales (60 pounds)
4, 5, Sinkers
6, 7, Leather reel brakes
8, Line savers
9, Thumb stall
10. Rubber rod cap
11, 12, Wire leaders

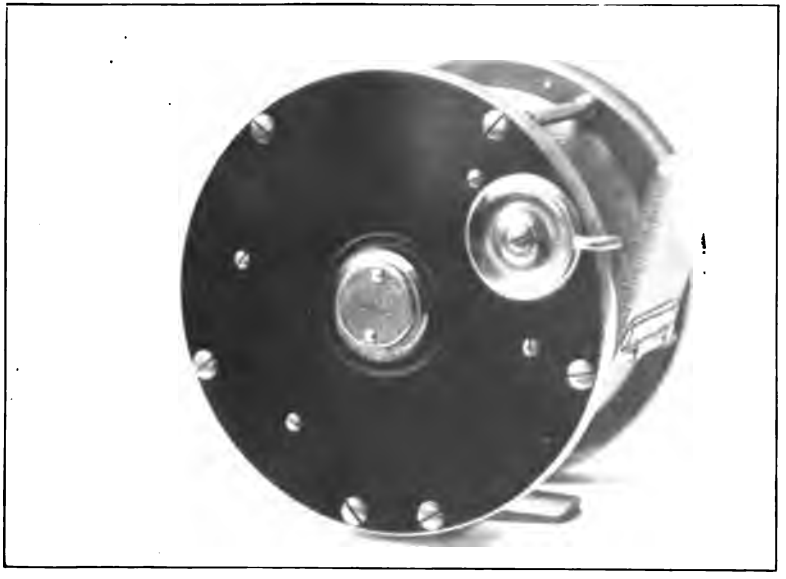


1, Hooks for small fish
2-6, Wilson spoons (yellowtail, white sea bass, etc.)
7, Japanese flies for catching bait (sardines)
8, Yellowtail hook, leader, etc.

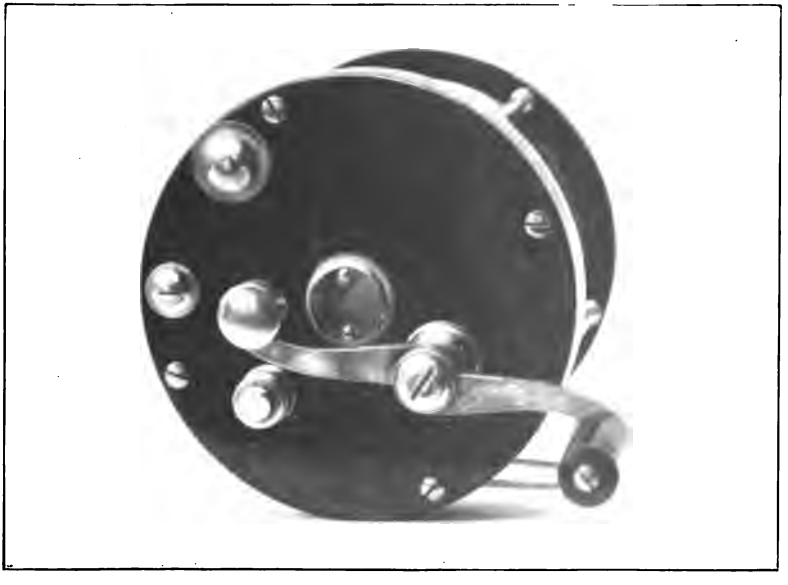


1, Belt
2, Gaff
3, Tackle box
4, Tuna reel
5, Yellowtail reel
6, Reel for small fish

TACKLE USED BY THE TUNA CLUB, SANTA CATALINA ISLAND



TUNA REEL
Showing two brakes



TUNA REEL
Showing handle side

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refuse to accept, — the tuna towing a twenty-foot launch by four hundred and fifty feet or more of twenty-one-strand line. It seems impossible.

During this rush the boat had gone four or five hundred feet offshore, and now it remained to gain line. The rod was raised quickly, and four feet was reeled in as rapidly as the hand would move. Again and again was this repeated; again and again there would come a splendid rush, and all the line gained would slip away into the sea, and the work had to be gone over again. Moments slipped by, and in an hour's time the fish has towed us an estimated four miles up the island and offshore, and doubtless intended to make for the deeper water of the channel. At the end of two hours I had the tuna within two hundred feet of the boat, during which it had never ceased its boring and plunging tactics that nearly paralyzed my left side and arms, and took away all feeling from the thumb, always playing on the brake. About this time I decided to force the fighting, and gained fifty feet in short order, when I saw that the fish was rising, and the rod had a tremulous motion. Up it came until two hundred feet away the tuna struck the surface, lashed the water a moment, then turned and shot around in a great half-circle to plunge down again. Again I forced it up, when it turned and played a splendid manœuvre entirely on the surface. About two hundred feet away it turned and came at me like a mad bull. If a swordfish had made the move it would have been uncomfortable; as it was, I leaped to my feet, stood one foot on the rail, and reeled rapidly. It was beyond human possibility to reel in the slack. The vision of that splendid charge was entrancing.

On came the fish — blue, green, yellow, and silver — flashing, tossing the spray, until it reached a point ten feet distant, when evidently it sighted the boat, turned sharply, and shot away like an arrow, taking off three hundred or more feet of line, and had to be again pumped up from the depths. Again it rose to the surface, again it charged me in the same gallant fashion, this *el toro* of the sea; a proceeding that was sensational in the highest degree; and so two hours passed. There was no "time," it was all action on the part of the fish, and terrific strain on the resilient rod, which had to be held at an angle of forty-five degrees. At two hours and a half the tuna swam in a circle about the boat after one of its sensational charges, then it started out to sea, taking us along at a rapid pace for a mile, when I stopped and turned it. It doubled and swam back, heading for the rocks near a point, and did not stop until so near them that I expected it to foul in the kelp; but when it sighted this floating forest it turned, circled the boat, and literally went mad as I stood and tried to hold it. Now it plunged to the bottom, rose like a balloon to circle the boat with great velocity, then dashed away to turn and charge us; all accomplished so quickly that boatman and angler were weary in anticipating it. I had been playing the tuna three hours, and we were four miles from the point where it was hooked. By a desperate effort I reeled it to within thirty feet, so near that the boatman began to handle his gaff. I fancied that the end was at hand, and was congratulating myself as I began dimly to realize that this fish was playing me also, and that I was slowly going down.

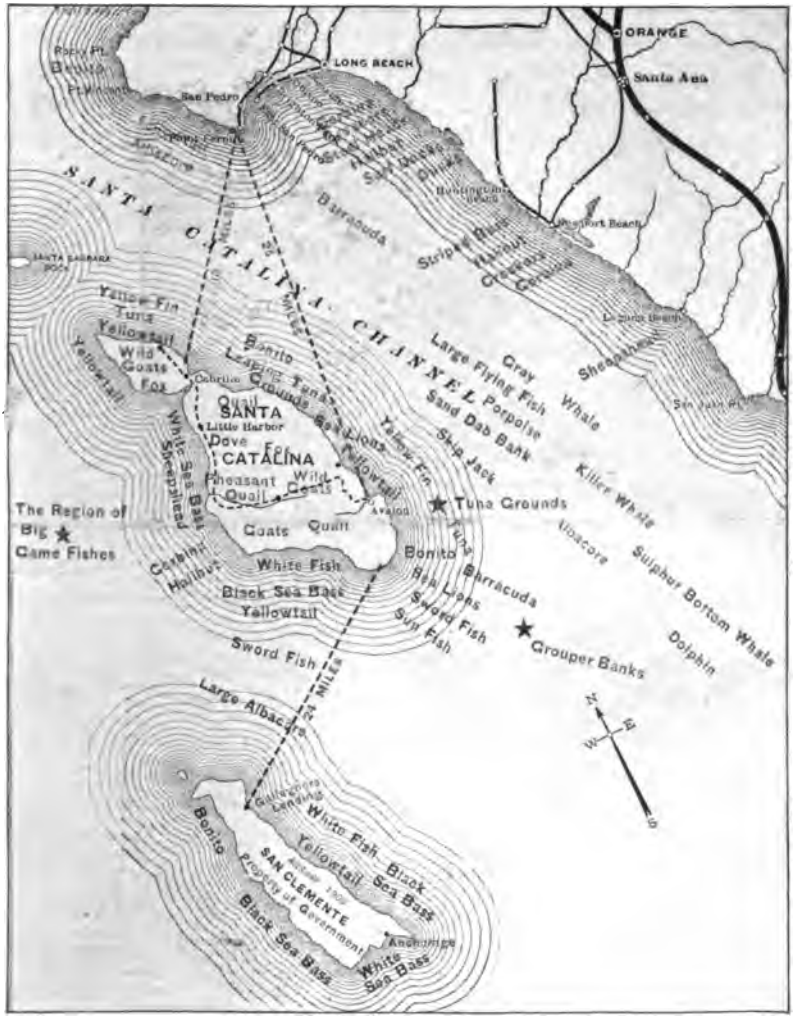
I give these particulars of a long play, they being more or less interesting and typical, as showing the gradual breaking down of a man by a fish. Encouraged by the apparent weakness of the tuna, I bent all my efforts to the reel, and happily brought the fish in, when suddenly it sprang ahead to gain line, turned, and took three hundred feet as easily as it had taken it three hours before — took it, held it, and swam steadily down the coast in the direction of Avalon.

The boatman kept the oars in the water and tried every reasonable trick to tire it, but the tuna kept on towing us, always stern first. I stopped it several times; it charged us again and again, and took us half a mile offshore, then turned and dragged us stern first into a heavy sea, which threatened to sink us; but by good fortune, which surely was on board, I turned the fish, which now headed to the south to the belt of smooth water. The continual strain on the left arm had brought me to the verge of acknowledging that something would have to be done, but I finally stopped the fish directly opposite Avalon, within a stone's throw of the spot where I had hooked it four hours earlier, its last run being about four miles. I literally made the desperate effort of my life, and brought it to the boat. For the first time we had a perfect view, and saw, what I had suspected, that it was a very large fish. I stood up, taking no chances; and as it swung along the quarter, canted upward, its big hypnotic eye staring out of the blue, the gaff sank into it. The fish gave a semi-leap, hurling the water over us, splintered the gaff pole, and was fifty feet away in a second; but by sheer good luck I stopped

it, and seeing that it was demoralized again, brought it in, fighting every inch. Another gaff, larger and stouter, another quick turn, and the clever boatman, flushed with victory, stood a moment holding the monster by the throat, then we stepped on the rail, forcing it down to the water's edge, and the tuna slid gracefully into the boat, where it beat a tattoo that bid fair to crush the timbers. Then, and only then, did we realize that it was a record fish, a giant of the tribe; and as boats gathered around, cheers, shouts, and congratulations rose on the air. As we pulled in, and the splendid creature was hauled out, triced up, and weighed, it was a moment of supreme satisfaction; for the game had nearly turned the tables several times, and had been taken with a line so small as to challenge the credulity of almost any one.

"Six feet four, a hundred and eighty-three pounds, sir," was the verdict of the proud boatman, Jim Gardner, of England, without whose skilled and clever work the contest would have ended long before. Such, in brief, were the incidents in the catch of the fish that became the first record of the Tuna Club, which was founded a few days later.

This catch typifies what is known in the United States as "strenuous sport"; but it was a small fish, eighty-eight pounds lighter, that really gave me the most sensational contest. I was fishing off Long Point with a light yellowtail rod to see if I could land a tuna on it, when I had a strike, a fine fish which was brought to gaff after a surface play of forty minutes. I had the same boatman, but a lower and lighter boat, a broad-beamed yawl. With me was Mr. Dennison, of Philadelphia, an ardent angler. We had, as often



ANGLING MAP OF SANTA CATALINA ISLAND GROUP, SHOWING LOCATION OF FISHING GROUNDS

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OF

happens, two strikes, and by good fortune I saved my fish, my companion going forward and taking his place in the bow to give me elbow room and the field. I turned the fish at the quarter, the boatman gaffed it, slid it fairly in, and then — then the unexpected happened, which well illustrates the possible dangers of big-fish angling. I was standing up to watch the fish, and as it touched the bottom of the boat it doubled, leaped or sprang into the air, and fell on the gunwale. The next second I was treading water, and the boat, which had sunk by the stern, shot up, bow first, shedding oars, gaffs, rods, and the many things that make up the sea-angler's kit. I recall seeing good American pie and a meerschaum pipe sailing off from the wreck. We were nearly a mile offshore, and as the boat came up I had backed off. My companion flung his arms about her, and called out that he could not swim.

It was then that the boat began a mysterious series of movements which I did not understand until later. She rolled over and over, and demonstrated that she would not hold us; so the boatman, who was a professional swimmer, took the rail on one side and I took the other side, hauling my companion, who wore an overcoat, into the boat, hoping in this way to steady her; but as she persisted in her inclination to roll over we decided to get him stretched out upon the bottom, while the boatman and I swam to the launch that was lying six or eight hundred feet off, and whose new engine we saw refused to work. The boat was turned bottom up; the unfortunate angler hauled himself onto her, and finding that he could preserve his balance, we struck out. I had on a corduroy suit and leggings and heavy shoes, and the

outlook was not enticing, but we made fair headway. I shortly distanced the boatman, and saw to my delight that the launch had started up and was coming for us. When she was within one or two hundred feet of me, a woman in her bow, the wife of our boatman, began screaming that her husband was drowning. I stopped swimming and, looking back, saw that he had indeed disappeared; but he immediately reappeared, to again disappear. Three times this occurred. I thought of sharks, but in answer to my call he cried out that he was all right, and *still had my tuna.* This proved to be the case. The brave fellow had never released the fish; it was still impaled on the gaff, and it was this splendid fish that plunged down, took him out of sight, literally dragging him under water. I was presently alongside, but he refused aid, and we again took up the swim, he swimming with his right arm, dragging the tuna with his left. When we shortly reached the launch two men took hold of me, but I was so heavy that they could not haul me aboard. A rope was then passed around my waist, and I was lashed to the shrouds and hauled up to allow the water to run off, corduroy proving a deadly load.

In the meantime Gardner threw his legs about the propeller, and we rested after the swim, after which all hands laid hold, and I was rolled in, to be in at the death of the to-be famous tuna. I leaned down over the stern, the crew holding me by the legs, while Gardner, who was lashed to the yacht, reached up the fish as well as he could. Anxious not to take any chances of losing the game, I thrust my arm down into the tuna's throat, grasped it by the gills, and gave the word. The crew hauled on my legs, I hauled

the tuna, and dropped it, still alive and vigorous, into the cockpit; then, Gardner having been hauled aboard, we made the welkin ring with cheers. In answer came a faint shout from my plucky companion, who, lying flat, did not dare to raise his head, but still wished to be a party in our triumph. The launch was now headed for him, and a line was tossed to him, which he made fast about his waist, and by this he was hauled aboard; then the boat was picked up, and Captain Harry Doss, who had rowed out, gathered up the flotsam which had covered the sea.

Now comes another extraordinary incident almost beyond belief in this sensational catch. As we sat watching the contortions of this active fish that drove us out of the cockpit, Gardner put his hand down to his trousers and cut out a hook that in some way had caught. It was connected with a line which was found to run overboard, and upon hauling in five or six hundred feet of it, my valuable rod and reel came in from the bottom of the bay. Gardner had not only towed the fish, but this as well. In the confusion of the rolling boat I had lost my hold upon the rod, and the big reel had carried it to the bottom; but by a special dispensation, the tuna had thrown out the hook, which stuck in the boatman's trousers, as described. If any more remarkable series of incidents ever came to pass in the landing of one fish I have failed to hear of it.

With flags flying we made the port of Avalon an hour later, producing the first tuna of the season, which weighed ninety-five pounds, thereby winning for the boatman the prizes of rods in the tournament of that year. I believe it is not going too far to say

that nine men out of ten would have cast off a tuna under the circumstances; and it is a pleasure to be able to cite James Gardner as an ideal tuna gaffer, possessing courage and skill.

Such are some of the incidents in this famous sport along the Channel Islands, where the sea is turquoise and the days are an almost endless summer.

I wish that space permitted the recital of all the great battles with tunas by other anglers, many of which were far more exciting and sensational than my own, and much longer; but that would be to publish the records of the Tuna Club; and a book of angling must be more or less confined to the experiences of its author, as he knows them the best. Following are the Tuna catches of 1909, for which I am indebted to Mr. L. P. Streeter, secretary of the Tuna Club.

TUNA CATCHES

Season of 1909

Date.	Angler.	Weight Pounds.
Aug. 19	A. C. Brode	126
Aug. 20	C. G. Conn	110
Aug. 22	L. G. Murphy	118
Aug. 22	E. G. Judah	111
Aug. 23	C. G. Conn	128, 120, 109
Aug. 23	A. J. Eddy	111½
Aug. 23	A. L. Tyler	117
Aug. 23	C. C. Bowerman	110
Aug. 24	Dr. J. L. Kirkpatrick	138½
Aug. 24	Dr. Edwin O. Palmer	112½
Aug. 24	Wm. M. Hunt, Jr.	117
Aug. 25	E. J. Polkinhorn	113
Aug. 25	Ross Kirkpatrick, Jr.	126
Aug. 25	C. G. Conn	120
Aug. 25	Philip S. O'Mara	153
Aug. 26	C. G. Conn	114
Aug. 26	Ben Williams	125
Aug. 28	Roy F. B. Shaver	113½
Aug. 28	Ben Williams	123½
Aug. 29	J. A. Coxe	122½

Aug. 30....C. G. Conn 125
Aug. 30....C. A. Thomas 118½
Aug. 30....G. E. Pillsbury, Jr. 104½
Aug. 30....T. McD. Potter 96½
Aug. 30....W. H. Ogburn 102½
Aug. 30....L. G. Murphy 114
Aug. 30....W. E. Jones 116
Aug. 30....B. O. Kendall 120½
Aug. 30....Ben Williams 109½
Aug. 31....W. E. Jones 106
Aug. 31....Smith Warren x98
Sept. 1....C. G. Conn 112
Sept. 1....W. E. Jones 123
Sept. 1....G. E. Pillsbury, Jr. 126
Sept. 2....Smith Warren 100
Sept. 2....W. Greer Campbell 120
Sept. 4....L. P. Streeter 136
Sept. 4....G. E. Pillsbury, Jr. 109
Sept. 5....Eugene Elliott 104
Sept. 8....Dr. B. O. Coates 123½
Sept. 11....A. W. Hooper 68
Sept. 13....C. Irving Wright 108½
Sept. 13....H. C. Rice 130
Sept. 14....A. W. Hooper x117½, 145½
Sept. 14....L. G. Murphy x108½
Sept. 14....Howard Wright 137
Sept. 14....A. B. Hitt 121½
Sept. 14....Henry Wetherby 129
Sept. 15....A. T. Munn 112
Sept. 15....Mrs. Philip S. O'Mara x135
Sept. 15....A. W. Hooper 113
Sept. 15....L. T. Bradford 126½
Sept. 17....C. G. Conn 113½, 108, 137½
Sept. 18....A. W. Hooper 122½
Sept. 18....C. G. Conn 101½, 120½, 125½, 115
Sept. 22....F. B. Murray 112
Sept. 23....L. G. Murphy x160

x Disqualified. Mutilated by shark.

SUMMARY

Total number taken during season, 65.
Number over 100 pounds, 62.
Average weight, 118.2 pounds.
Largest, 153 pounds.
Smallest, 68 pounds.
Number of Blue Buttons issued, 28.

CLASSIFICATION OF BLUE BUTTON WINNERS

Seven buttons awarded to associate members.
Three buttons awarded to active members holding Red Buttons.
One button awarded to elected active member.
Seventeen buttons awarded to anglers not members at time of catch, but later elected.

The leaping tuna, *Thunnus thynnus*, is not only a game fish, but edible. In Italy the fisheries are most important and the fishermen parade the streets and appeal to the saints for good seasons. There they are caught in vast nets, and not a scrap of tuna is wasted. In California there is no demand for the fish for food except by the Italians; but nearly all that are taken with rod and reel are mounted by Chas. C. Parker, the Avalon taxidermist, who has sent them all over this country and to England as trophies; to take a tuna over one hundred pounds in weight, according to Tuna Club rules, is supposed to mean something.

Exactly where the leaping tuna goes in winter has always been a mooted question, but this year, when Mr. C. G. Conn was fishing in the Gulf of California, he found that the tunas visited that region. He refers to it as follows:

"I am writing you the information, etc. We have practically ascertained definitely that the tuna come south in the winter, although we have not found their rendezvous. They make their appearance in March each year at San Lucas Bay where they may be found in great numbers. The natives catch them then with harpoons, and they say that some of the fish weigh over three hundred pounds. The natives call these tuna large albacores, and their description of the leaping of the fish, some of which they say jump out of the water ten feet into the air, settles in my mind all doubt as to the migration of the tuna south during the winter months. The natives

claim that these albacores are very powerful. A Mr. Cesaña has found one of them near shore, and not being able to land it with his dugout he induced a neighbor, a Mr. Green, to hitch his horse to the harpoon line. Mr. Cesaña says the albacore pulled the horse into the water, when 'the line was broken and the fish got away.'"

As to the spawning season of the tuna but little is known. I have never seen a leaping tuna under seventy or eighty pounds; I have heard of several as small as five pounds being caught, but this is rare. The spawn is doubtless deposited in August or September, on the surface. The young in a short time take to deeper water and form in schools somewhere. Usually the schools of adults have been followed in or about the bay at Long Point, but in 1909 the big school lay off the southeast of Santa Catalina about five miles, where most of the catches were made. I saw them at San Clemente where they were widely distributed and charging the flying-fishes down the coast, covering miles of water. At Santa Catalina in 1909 the school appeared to move inshore at night or toward night, and go off again during the day. They could be easily located on the surface by the ripple. Many attempts have been made to take them with rod and reel at Santa Cruz and Anacapa Islands, but so far without avail.

The tuna is a gregarious feeder. The flying-fish of California, a fish eighteen inches long and weighing a pound and a half, is the *bonne bouche* of its choice, and up to August it appears to feed upon this fish entirely. Specimens examined later were found to be feeding on small squids. A fisherman told me that in the Atlantic they came around his boat and fed on

dogfish (sharks) which he tossed over, and doubtless the big fish does not object, when hungry, to prey of any reasonable kind.

The record rod catches of large leaping tuna are as follows:

C. F. Holder, Pasadena, Cal., season 1898	183	pounds
Col. C. P. Morehouse, Pasadena, Cal., season 1899	251	"
Gen. A. W. Barrett, Los Angeles, Cal., season 1900	164	"
Mrs. E. L. Dickerson, New York, season 1901	216	"
Ernest E. Ford, Alhambra, Cal., season 1902	174	"
Col. John E. Stearns, Los Angeles, Cal., season 1902	197	"
Gen. A. W. Barrett, Los Angeles, Cal., season 1904	131	"
P. S. O'Mara, Salt Lake City, Utah, season 1909	153	"

If all the anglers, one hundred or more who have taken the game of over one hundred pounds in weight, according to the rules of the club, could tell their experiences, a volume could be compiled that in excitement and sensational incidents would astonish the world. My own experiences are nothing compared to those of others who have played the fish seven hours (Mr. Wood), or been towed from Avalon to near Redondo, twenty or thirty miles (Judge Beaman).

These battles, recorded in the Tuna Club books, are among the marvels of sport. The tackle for tunas is a rod not over sixteen ounces or under six feet. The line must be not over a twenty-four-thread. If the angler takes a fish over one hundred pounds in weight with this tackle, he is eligible to membership in the Tuna Club, and if elected and an amateur he receives the coveted blue button, which has cost many anglers thousands of dollars and the quest of years; while others have received it in a single day's fishing. The accounts of the Tuna cups, trophies,

and tournaments will be found in the chapter on the Tuna Club.

We often read of the woman in fiction who skilfully lands her salmon after a long and strenuous contest which takes her up and down, and out into the stream, always winning the heart of her companion; and both are happy ever after. It is not always in novels and romances that women are successful, as in both England and America there are women anglers who have brought all kinds of game to gaff or net. At Santa Catalina Island it is a daily occurrence to see women take fishes running up to twenty pounds with rod and reel, and not a few have taken the elusive and gamy tuna and the omnipresent black sea bass.

The first lady to take a tuna was Mrs. Walter Raymond, of Pasadena, who took a one-hundred-and-fifty-pound fish after a struggle of several hours, during which she played the great game with the skill of a man and with additional cleverness.

One of the longest contests by a woman, and without doubt the most extraordinary catch ever made by one, was that of Mrs. E. L. Dickinson, of New York, who killed after a long fight the second largest tuna ever taken. It weighed two hundred and sixteen pounds — a seemingly impossible feat, as smaller tunas have worn out and utterly demoralized strong men.

The extraordinary nature of these catches cannot be realized by the mere contemplation of a realistic photograph. The fishes look large, but they do not tell the story of hours of battling, the nervous and physical strain. Mrs. A. W. Barrett, wife of General Barrett, hooked a tuna off Long Point, and was towed about for seven hours before the fish was brought to

gaff. This fish was an extraordinary fighter, dashing this way and that, hurling itself along the water; now plunging deep into the blue channel to the bottom, then coming up like an arrow from the bow, to dash in at the boat and circle it, performing a thousand tricks to demoralize the angler and wear her out; but all without avail.

CHAPTER VII

THE TUNA CLUB AND ITS BRANCHES

IN all probability the most widely known and most influential angling club in the world has its headquarters at Avalon, Santa Catalina. There is but one organization like it, the British Sea Anglers' Society of London, founded by Mr. F. G. Aflalo, the well-known authority on sea-angling, whose books are standards and classics. As you enter the smooth and attractive little bay of Avalon, a brown building with a pier out over the water is seen to the right. From its flagstaff floats a blue flag bearing the words "Tuna Club," and down from it are numerous signals and colors, telling that some member has made a catch, and that Mr. T. S. Manning, the genial *arbiter piscatorum* of the club and of the town, is celebrating in his loyal fashion.

The club house is not five minutes from pier or hotels, and sooner or later, anglers from abroad find their way into its hospitable rooms, and meet the really famous sea-anglers of the world; not only see them, but the fishes on which they won their spurs and honors, as they hang on the walls. The club is a modest structure built out over the water, and was devised as a meeting-place for anglers and to aid members and their friends in securing a good day's fishing. Entering, the office is on the right, where Mr. Manning holds forth as Honorary General Manager, devot-

ing his time to it as a labor of love. On the left is the locker room for rods, reels, lines, and the paraphernalia of the sea-angler. The upper part of the building is devoted to sleeping-rooms. The front of the second story is a sun piazza, from which the angler may look out on the tuna fishing-grounds. Passing through the hall to the front, the visitor enters the large living-room, with heavy oaken beams, all in browns and russets. The room has comfortable furniture, a library of the principal angling books of the day, and various old ones. An interesting feature of the library is the number of autograph copies of works on angling by members of the club. Dr. Henry Van Dyke, F. G. Aflalo, Gifford Pinchot, Caspar Whitney, Charles Hallock, David Starr Jordan, Theodore Van Dyke, Grover Cleveland, Charles F. Holder, and others have contributed their works. On the table are the big silver cups of the various branch clubs, as the Three-Six and the Light Tackle, filled with the semi-tropical flowers of the island. On the table are angling and other magazines and publications of the day. Here are charts and maps of the coast; for many of the members are yachtsmen, their yachts lying in the bay. With the opening of the Panama Canal these will be augmented, many of the yachts of New York spending their winters in Southern California waters.

What will impress the visitor in this comfortable but modest room is the mounted fishes, telling the story of the Tuna Club's work in revolutionizing sport and elevating the standards. Here is the record tuna — two hundred and fifty-one pounds, of Col. C. P. Morehouse of Pasadena; the splendid twelve-foot,

THE TUNA CLUB, SANTA CATALINA ISLAND

Showing Avalon in the background

THE TUNA CLUB, AVALON

Santa Catalina Island, California

three-hundred-and-thirty-nine-pound swordfish of the Hon. C. G. Conn, of Elkhart, Indiana, whose yachts and launches lie off the club pier. Here is the first tarpon from Aransas Pass, taken by Mr. L. P. Streeter, secretary of the club, with nine-nine tackle, illustrating a remarkable catch and the influence of the club. Mr. Streeter went to Aransas, Texas, introduced the Tuna Club methods of tackle, and founded the Aransas Pass Tarpon Club. To carry it out, he became its first president, and now the sport is on an entirely different basis. Here are Mr. A. L. Beebe's record yellowtail with nine-ounce rod and nine-thread line; Dr. Mattison's record dolphin; the record long-finned tuna or albacore; the author's big rainbow trout— nine and three-quarter pounds — from Klamath Lake, and other trophies. From these insinuating facts we may turn to the albums of the club and see the photograph of nearly every notable catch, — taken not to display man and fish in an objectionable way, but as a club record, illustrating a notable humanitarian point, namely, that around the Channel Islands big fish are given every possible chance and are taken on the very lightest tackle.

These books show notable sea-anglers of this and other countries, and tell stories of angling achievements that may well be received by the layman with incredulity. This alluring room abounds in windows, that the bright sun may add brilliancy to the fish stories told here. A door opens to the bay onto a piazza, which is a dock, over about fifteen or twenty feet of water, with chairs and seats, electric lights, compass, and the machinery of the U. S. Weather Bureau. A nautical feature are the davits, upon which are sus-

pended skiffs and boats belonging to the members. Down from this dock, which is a favorite lounging-place of the members, steps lead to the float, the private landing-place of the club, where the launches are moored, and angling parties land and depart. Japanese boys are in attendance. The yachts and launches of the members are near at hand, and it is an easy matter to see that the Tuna Club fills an important nook in the lives of the sea-anglers who congregate here.

The club has entertained many notable guests. It has an arrangement with the London, England, Anglers' Society for a sort of reciprocity of good-fellowship. Thus, the author, as president of the Tuna Club, is an honorary vice-president of the British Sea Anglers' Society, and the president of the latter is an honorary member of the Tuna Club, and visiting members of these clubs are assured of every attention. A somewhat similar arrangement exists between the Tuna Club and various American clubs. What this means to a stranger arriving in a new place, every angler can imagine. He finds friends at once in the Tuna Club, whether he is from New York, Boston, London, Paris, Cape Town, or Australia, as the Tuna Club has members all over the world. The club admits the ladies of the families of members from ten A.M. until four P.M. It is an institution undoubtedly unique in the world of clubs.

The Tuna Club was founded by me in 1898, with the object of establishing a high standard of sport in all California.

In 1886 rods were unknown at the islands, and the one I took to Avalon in that year was looked upon by Mexican Joe, the only boatman in those days, as

"impossible machinery"; that I could land a thirty-pound yellowtail with such a "whip" he honestly believed a figment of my imagination. The day of my first landing at Avalon I saw men casting big hand-lines (cod-lines) from the beach, catching yellowtails from eighteen to thirty-five pounds as fast as they could pull them in. I saw that I had stumbled upon an angling paradise; also, I recognized the fact that no fishing-ground could stand such methods.

At this time there were no laws of any value relating to the fisheries, and before they could be made effective the looters and "game hogs," found in all lands and climes, had nearly exterminated the abalone and the crawfish, and played havoc with the bait fishes, as sardines, etc. I asked the coöperation of several friends, and the Tuna Club was organized. The original members were Mr. E. L. Doran, of Los Angeles, Dr. H. K. Macomber, of Pasadena, Mr. Fitch Dewy, of Detroit, Mr. Clifford Scudder, of St. Louis, Mr. Landers, of San Francisco, and myself. The club grew. Men of influence all over the country joined, and gave their moral support, and in a few years an organization of men whose names meant something the world over was formed to advocate fair play for the oceanic game fishes. Among the honorary members who lent their aid and influence and example were the following:

Theodore Roosevelt, President of the United States, elected in 1898, when Governor of New York; Dr. Henry Van Dyke, author of "Fisherman's Luck," etc., elected in 1898; H. H. Markham, ex-Governor of California, elected in 1899; Charles Hallock, of Washington, founder of the "Forest and Stream," elected in

1907; Grover Cleveland, of Princeton, ex-President of the United States, elected in 1899; F. G. Aflalo, F.Z.S., of England, member of the British Sea Anglers' Society of London, elected in 1907; Theodore Van Dyke, of California, author of "The Still Hunter," etc., elected in 1903; Gifford Pinchot, elected in 1906; Captain William Banning, of Los Angeles, elected in 1899; J. Parker Whitney, author of "Salmon Fishing," elected in 1907; Caspar Whitney, of New York, elected in 1899; Joseph Jefferson, elected in 1899; Joseph B. Banning, elected in 1899; Hancock Banning, elected in 1899; David Starr Jordan, President of Leland Stanford Junior University; the president of the British Sea Anglers' Society; United States Senator Frank P. Flint.

In a short time a membership of several hundred was secured for a club whose only possession was an idea. There was no club house for years, merely a desk in a corner of the Hotel Metropole by the courtesy of the proprietors, who aided the movement in every way. The dues were not obligatory; they were paid only if the member so desired, yet the club grew, and abundant funds were forthcoming.

The following from the history of the club tells the story:

THE TUNA CLUB

Its Origin and History

Objects of Club

"The Club was founded in 1898 by Charles Frederick Holder of Pasadena as a gentlemen's club, to prevent the slaughter of game fish with hand-lines, to elevate the standard of sport on the Pacific Coast, either in fresh or salt water, and to pro-

tect game fish in every way, and to secure proper legislation affecting the fisheries of all kinds, the protection of sardines and other food fish during the spawning season, and in every legitimate way to set an example of the highest possible sportsmanship.

"To accomplish this the Club organized with several kinds of members; active, who had accomplished the seemingly impossible by taking tunas over one hundred pounds, and other representative anglers and citizens of influence were invited to join the experiment. The plan adopted was to advocate the lightest possible tackle for the largest fish, and rod and reel, the theory being that with this tackle it would be impossible to land more than a rational angler ought to catch in a day. The Club made a twenty-four-strand line the limit, but advocated twenty-one for tunas, eighteen and nine lines for yellowtail and white sea bass (fifty to eighty pounds). This was at the option of the angler, and many experiments were tried. In 1888 a member caught a seventeen-pound yellowtail with an eight-ounce ten-foot split bamboo and a trout silk line, and many club members experimented with number nine and eighteen lines for all fishes except tuna and black sea bass; but taking into consideration the possibilities of kelp and chafing in long encounters, the Club advocated light rods and the twenty-one-strand line as a good average size and fair to the fish.

"In his annual address the first president and founder of the Club, Charles F. Holder, said: 'I congratulate you, gentlemen of the Tuna Club, on the results of a year's example. A year ago boats left Avalon Bay with from four to ten heavy hand-lines, and tunas and yellowtail and sea bass were slaughtered by the ton and thrown away. To-day by your example not a boatman of Santa Catalina will permit a hand-line in his boat. All use rods and reels and the lines specified by the Club, and the result is that few fish are wasted, the catch is reduced two-thirds, and the sport is enhanced by the use of rod and reel. Not only this, but the fame of the Tuna Club has gone around the civilized world, and its example, "fair play to game fishes," has been adopted in every land where the phrase, "He fishes like a gentleman," has any significance.'"

The club was named after the tuna, because it was a good and euphonious name, and its organization followed my catch of the first very large tuna. There are three kinds of members: First, the active members who have landed a tuna of one hundred pounds or over according to club rules. These are voting members and have full charge of the club. Second, associate members, selected from anglers at large. Third, honorary members who have aided in the principles the club stands for.

The evolution of this club, how it educated the sport-loving public from the big hand-line period of 1885 up to to-day, when the same fishes are taken with light resilient rods and thread-like lines, reads like romance. To accomplish the reform I suggested a tournament, in which, and during which, the club should offer valuable prizes to boatmen and anglers, which could be attained only by fishing according to the club rules, which, in brief, were the first stages of the light-tackle movement of to-day. I carried on a series of experiments here in 1886–87 with light lines and rods, trying a variety of weights and sizes, even to taking large yellowtails on eight-ounce, ten-foot split bamboo trout rods and the equivalent of a number three line. This demonstrated that rod-fishing could be successfully introduced.

The club suggested the convention of anglers held at the Museum of Natural History, New York, in 1904, under the chairmanship of Dr. Henry Van Dyke, who gave the name of "Honest Anglers" to the permanent organization. At this convention papers were read explaining the work of the club, showing the work of the "fish-game hog" all over the country,

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TUNA CLUB TROPHIES

The Montgomery cup — The T. McD. Potter Three-Six Cup

and the need for reform, protest, and action. President Roosevelt and Vice-President Cleveland both sent papers or letters commending the work done and proposed. The programme was as follows:

HONEST ANGLERS' CONVENTION

AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK CITY

November Eleventh, Nineteen Seven

"THE TRUE SPORTING SPIRIT." Address by Dr. Henry Van Dyke, of Princeton College, N. J.

"THE GRAYLING." Paper by Dr. David Starr Jordan, President Stanford University, California.

"TO THE TIP-TOP OF THE UNITED STATES IN SEARCH OF THE GOLDEN TROUT." Paper with Stereopticon Views by Dr. Barton Warren Everman, Ichthyologist of the United States Bureau of Fisheries.

"THE GREAT GAME FISHES OF THE PACIFIC SLOPE AND WHAT HAS BEEN DONE TO PROTECT THEM." Paper with Stereopticon Views by Charles Frederick Holder, President Santa Catalina Island Tuna Club, California.

"THE FISH CULTURAL WORK OF THE NEW YORK FISH, FOREST, AND GAME COMMISSION." Paper by Dr. Tarleton H. Bean, of the New York Commission.

"THADDEUS NORRIS AND BOB ROOSEVELT IN ANGLING LITERATURE AND THEIR FISH PROTECTIVE CREEDS." Paper by Mr. Charles Hallock, Founder of *Forest and Stream*.

Other valuable contributions were read.

This work has been going on for years, and the result is the extraordinary fleet of angling boats at Avalon Bay, all with fine and expensive equipments, with a motto — "Fair play to game fishes, and the lightest possible tackle." The mere suggestion of a hand-line in these vales of peace and big fish arouses ridicule and resentment, and no one can go fishing at these islands from Santa Barbara to Los Coronados without receiving a lesson in the ethics of the gentle art of angling. The Tuna Club endeavors to encour-

age the boatmen and gaffers who have a large investment. Its rules and tournaments have brought thousands of anglers to the island, and their prizes to boatmen for efficiency have resulted in a body of men unequalled anywhere for intelligence, skill, and loyalty to patrons. If their experiences in a single year could be collected, an interesting and unique book of adventure would be the outcome. The boatmen especially recognized by the Tuna Club for their skill are as follows:

The Tuna Club Gaffers' Badge, instituted in 1907, was awarded to boatmen having gaffed a one-hundred-pound tuna under Blue Button specifications; or a fifty-pound tuna under Light Tackle specifications. It was won by: Captains Chappelle, A. S. Clover, O. I. Danielson, Harry Doss, C. A. Fisher, Geo. Farnsworth, Jim Gardner, Tad Gray, Geo. Johnson, Felice José Presiãdo (Mexican Joe), Geo. Michaelis, Percy Neal, Chris Ringsen, Claude Whitman, Geo. Zimolier. All the above boatmen have gaffed one-hundred-pound tunas. Captains Clover, Danielson, Fisher, and Neal have also gaffed fifty-pound tunas, taken on light tackle, and winning for the anglers in each instance the Red Button of the Tuna Club.

The professional boatmen — and there are many more whose names have not been given — have their own organization in the Sophia Boat Club, founded by Commodore Tutt, of Colorado Springs, a late honored member of the Tuna Club.

The Tuna Club has influenced legislation in favor of protection of the fisheries. Its members have contended first, last, and all the time for strict game laws, and through their influence laws have been

passed protecting the spawning grounds of the bay. Members have fought for the legal protection of the gulls and sea birds. In every field relating to the interests of the State or the islands the club has taken an active hand, always for the best and for logical reform.

The average citizen has a very hazy idea of the economic value of sport to a State. The State of Maine estimates that its fishing, game, etc., bring into its area five millions of dollars every year. If this is true, those of California bring to the Pacific Coast even more, as the Channel Islands and the California trout streams are the great playgrounds of the world, and with the opening of the Panama Canal the islands will doubtless become winter yachting grounds of the Atlantic fleets and clubs. Avalon Bay is the favorite anchorage of the South Coast Yacht Club, and is often filled with beautiful yachts, some of which are the *Comfort*, of Mr. C. G. Conn; the *Compredore*, the beautiful steam-yacht of Captain William Banning; the *Cricket* and *La Paloma*, of Mr. Hancock Banning; the *Vixen*, owned by Don Arturo Bandini; the graceful *Lurline*, by Commodore H. H. Sinclair; and many more, which when at anchor surround the Tuna Club with a variety of craft resplendent with color.

It can be said that the tournament idea was successful from the very inception, and the attractive collection of trophies, medals, cups, etc., tells the story of the evolution of sea-angling in California. The tournament began with the opening of the tuna season and ended on the first of November. The following is a tournament announcement for 1908, showing the prizes:

THE TUNA CLUB OF SANTA CATALINA ISLAND, CALIFORNIA

Tenth Annual Angling Tournament, May 1 to October 1, 1908, inclusive

HOLDERS OF CUPS AND RECORDS

Largest Leaping Tuna (Thunnus thynnus) over 100 pounds

C. F. Holder, Pasadena, Cal., season 1899 ..... 183 pounds
Col. C. P. Morehouse, Pasadena, Cal., season 1900 ..... 251 "
Mrs. E. L. Dickerson, New York City, season 1901 ..... 216 "
Ernest E. Ford, Alhambra, Cal., season 1902 ..... 174 "
John E. Stearns, Los Angeles, Cal., season 1902 ..... 197 "
Gen. A. W. Barrett, Los Angeles, Cal., season 1904 ..... 131 "

* *Largest Yellow-fin Tuna (Thunnus maculatus) over 50 pounds*

Arthur J. Eddy, Chicago, Ill., season 1906 ..... 60 pounds
E. J. Polkinhorn, Torreon, Mexico, season 1907 ..... 50½ "

Record Black Sea Bass (Stereolepis gigas)

F. V. Rider, Avalon, Cal., season 1898 ..... 327 pounds
T. S. Manning, Avalon, Cal., season 1899 ..... 372 "
F. S. Schenck, Brooklyn, N. Y., season 1900 ..... 384 "
C. A. Thomas, Pomona, Cal., season 1901 ..... 384 "
H. T. Kendall, Pasadena, Cal., season 1902 ..... 419 "
Edward Llewellyn, Los Angeles, Cal., season 1903 ..... 425 "
L. G. Murphy, Converse, Ind., season 1905 ..... 436 "

Largest Yellowtail (Seriola dorsalis)

F. V. Rider, Avalon, Cal., season 1898 ..... 41 pounds
F. S. Gerrish, Jacksonville, Fla., season 1899 ..... 37 "
R. F. Stocking, Los Angeles, Cal., season 1900 ..... 48 "
T. S. Manning, Avalon, Cal., season 1901 ..... 33 "
Dr. Trowbridge, Fresno, Cal., season 1902 ..... 47½ "
F. P. Newport, Los Angeles, Cal., season 1903 ..... 46 "
H. Meyst, Chicago, Ill., season 1904 ..... 44 "
J. E. Pflueger, Akron, Ohio, season 1905 ..... 43 "
A. A. Carraher, Avalon, Cal., season 1906 ..... 38½ "
Edward C. Sacks, Butte, Mont., season 1907 ..... 41½ "

Record White Sea Bass (Cynoscion nobile)

C. H. Harding, Philadelphia, Pa., season 1904 ..... 60 "

Record Swordfish (Tetrapturus)

Edward Llewellyn, Los Angeles, Cal., season 1903 ..... 125 "

† *Largest Albacore (Thunnus alalonga)*

A. B. Cass, Los Angeles, Cal., season 1907 ..... 41½ "

* Red Button Fish † Red Button Specifications.

Cups and Prizes

Tuna Club Cup. For largest Tuna of season over 100 pounds. — Silver Loving Cup, presented by the Banning Company. Winner's name engraved on cup, same to remain property of the Club.

Montgomery Cup. For largest Tuna of season over 100 pounds.— Silver Loving Cup, presented by Montgomery Brothers, Los Angeles, Cal. Winner's name engraved on cup, same to become property of angler winning it three times.

Tuna Club Medal. For largest Tuna of season over 100 pounds. — Gold Medal, presented by Tuna Club. Winner's name engraved on bar; medal to remain property of the Club.

Burns Tuna Cup. For exceeding club record. — Silver Loving Cup, presented by Colonel Dan M. Burns, San Francisco, Cal.

Morehouse Tuna Cup. For exceeding club record. — Silver Loving Cup, presented by Colonel C. P. Morehouse, Pasadena, Cal.

Vom Hofe Prize. For exceeding club Tuna record. — Rod and reel, presented by Mr. E. Vom Hofe, New York City, N. Y.

Pflueger Prize. For first Tuna of season over 100 pounds. — Pflueger reel, presented by Mr. J. E. Pflueger, Akron, Ohio.

* Potter Tuna Cup. For largest Red Button Fish of season. — Silver Loving Cup, presented by Mr. Thos. McD. Potter, Los Angeles, Cal. Winner's name engraved on cup, same to remain property of Club. Winner will be presented with a souvenir cup.

Holder Swordfish Cup. For largest fish of season. — Silver Loving Cup, presented by Mr. Chas. F. Holder, Pasadena, Cal. Winner's name engraved on cup, same to become property of angler winning it twice.

Tufts-Lyon Cup. For exceeding the club Black Sea Bass record.— Silver Loving Cup, presented by Tufts-Lyon Arms Co., Los Angeles, Cal. Winner's name engraved on cup, same to remain property of Club.

Rider-Macomber Medal. For largest Black Sea Bass of season. — Gold Medal, presented by Messrs. Rider & Macomber, Pasadena, Cal. Winner's name to be engraved on bar each season; medal to remain property of the Club.

* John F. Francis Medal. For largest Yellowtail of season. — Gold Medal, presented by the late John F. Francis. Winner's name engraved on bar each season; medal to remain property of the Club.

* Eddy Cup. For largest Yellowtail of season. — Silver Loving Cup, presented by Mr. Arthur J. Eddy, Chicago, Ill. Winner's name engraved on cup each season; same to become property of angler winning it three times.

* Nordlinger Ladies' Cup. For largest Yellowtail of season.—Silver Loving Cup, presented by S. Nordlinger & Sons, Los Angeles, Cal. Winner's name engraved on cup each season; same to remain property of Club. Winner will be presented with a souvenir cup.

* Competed for under tackle specifications of Red Button Class.

HARDING WHITE SEA BASS MEDAL. For exceeding club record. — Gold Medal, presented by Mr. C. H. Harding, Philadelphia, Pa. Winner's name engraved on bar; medal to remain property of Club.

STREETER ALBACORE MEDAL. For largest fish of season over 40 pounds.— Silver Medal, presented by Mr. L. P. Streeter, Pasadena, Cal. Winner's name engraved on bar; medal to remain property of Club.

* HARDING BONITO CUP. For largest fish of season.— Silver Loving Cup, presented by Mr. F. L. Harding, Philadelphia, Pa. Winner's name engraved on cup each season, same to become property of angler winning it three times.

RULES

First: Anglers must bring fish to gaff entirely unaided. The fish must be reeled in. A broken rod, either before or after gaffing, disqualifies the angler.

Second: An angler must fish with but one rod at a time.

Third: All catches must be reported to a member of the Weighing Committee, weighed in his presence, and recorded.

Fourth: Tackle must be exhibited with the fish at time of weighing.

Fifth: Tournament is open to all amateurs. Professional fishermen or those engaged in allied industries and members of their families are barred.

Sixth: Membership in the Club is limited to men.

For conditions governing award of club buttons see separate rule card, furnished on application.

L. P. STREETER, *Secretary.*

P. O. Box 1152, Pasadena, California.

The Tuna Club also gives a winter sea-angling tournament, of which the following is the announcement for 1909:

FIRST ANNUAL WINTER SEA-ANGLING TOURNAMENT

November 1, 1909, *to May* 1, 1910

SPECIAL AWARDS

MEDALLIONS

Tuna

For the largest Tuna .....Gold Medallion
For the second largest Tuna .....Silver Medallion
For the third largest Tuna .....Bronze Medallion
Blue Button Competition.

* Competed for under tackle specifications of Red Button Class.

Tuna

For the largest Tuna ..... Gold Medallion
For the second largest Tuna ..... Silver Medallion
For the third largest Tuna ..... Bronze Medallion

Albacore

For the largest Albacore ..... Gold Medallion
For the second largest Albacore ..... Silver Medallion
For the third largest Albacore ..... Bronze Medallion

White Sea Bass

For the largest White Sea Bass ..... Gold Medallion
For the second largest White Sea Bass ..... Silver Medallion
For the third largest White Sea Bass ..... Bronze Medallion

Yellowtail

For the largest Yellowtail ..... Gold Medallion
For the second largest Yellowtail ..... Silver Medallion
For the third largest Yellowtail ..... Bronze Medallion

Bonito

For the largest Bonito ..... Gold Medallion
For the second largest Bonito ..... Silver Medallion
For the third largest Bonito ..... Bronze Medallion

CUPS AND PRIZES

BANNING CUP. For the angler taking the largest Albacore of the season. — Silver cup given by the Banning Company. Winner's name to be engraved on cup, which remains the property of the Club.

CONN CUP. For the angler taking the largest Tuna of the season (Blue Button specifications). — Winner's name to be engraved on cup, which remains the property of the Club.

CONN MEDAL. For the professional boatman taking the largest Tuna of the season (Blue Button specifications). — Gold Medal valued at $50, given by Hon. C. G. Conn.

COXE PRIZE. Reel, for angler taking first Tuna of season. Presented by J. A. Coxe.

Tuna

MONTGOMERY CUP. For largest Tuna of season over 100 pounds. — Silver Loving Cup, presented by Montgomery Bros., Los Angeles, Cal. Winner's name engraved on cup, same to become property of angler winning it three times. Blue Button Competition.

* BROCK & FEAGANS MEDAL. For the largest Tuna of the season. — Gold Medal, presented by Brock & Feagans, jewellers, Los Angeles, Cal. Winner's name to be engraved on gold bar each season; medal property of the Club.

*Light Tackle Competition.

Yellowtail

* EDDY CUP. For largest Yellowtail of season. — Silver Loving Cup, presented by Mr. Arthur J. Eddy, Chicago, Ill. Winner's name engraved on cup each season, same to become property of angler winning it three times.

* JOHN F. FRANCIS MEDAL. For largest Yellowtail of season. — Gold Medal, presented by the late John F. Francis. Winner's name engraved on bar each season; medal to remain property of the Club.

Albacore

* STREETER ALBACORE MEDAL. For largest fish of season over 40 pounds. — Silver Medal, presented by Mr. L. P. Streeter, Pasadena, Cal. Winner's name engraved on bar; medal to remain property of Club.

BOATMEN'S PRIZES

Tuna

For boatman of angler taking the largest Tuna of season. — Nine-ounce rod, given by the Tufts-Lyon Arms Company.

For boatman of angler taking second largest Tuna of season. — Reel, given by Catalina Novelty Company.

For boatman of angler taking third largest Tuna of season. — Three hundred yards of nine-thread line, given by Western Hardware & Arms Company.

Albacore

For boatman of angler taking largest Albacore of season. — Nine-ounce rod, given by the W. H. Hoegee Company.

For boatman of angler taking second largest Albacore of season. — Chubb three-six rod, given by Mr. Thomas McD. Potter.

For boatman of angler taking third largest Albacore of season. — Three hundred yards of nine-thread line, given by the Dyas-Cline Company.

Yellowtail

For boatman of angler taking largest Yellowtail of season. — Chubb three-six rod, given by Mr. Thomas McD. Potter.

For boatman of angler taking second largest Yellowtail of season. — Reel, given by the Dyas-Cline Company.

For boatman of angler taking third largest Yellowtail of season. — Three hundred yards of nine-thread line, given by the Tufts-Lyon Arms Company.

* Light Tackle Competition.

White Sea Bass

For boatman of angler taking the largest White Sea Bass of season. — Nine-ounce rod, given by Dyas-Cline Company.

For boatman of angler taking second largest White Sea Bass of season. — Chubb three-six rod, given by Mr. Thomas McD. Potter.

For boatman of angler taking third largest White Sea Bass of season. — Three hundred yards of nine-thread line, given by the W. H. Hoegee Company.

L. P. STREETER, *Secretary.*

Box 1152, Pasadena, California.

The Tuna Club includes in its work for a higher attainment of sport two branches, which were originally separate clubs: The Light Tackle, founded by Arthur Jerome Eddy, of Chicago, and the Three-Six, by Thomas McD. Potter, of Los Angeles, both anglers of national reputation. They are now carried on by the directors of the Tuna Club, each having as its province the promotion of lighter tackle. The Light Tackle branch has valuable trophies, which must be fished for on nine-ounce rods and nine-thread lines. The Three-Six Club demands six-ounce rods, not less than six feet in length, and six-thread lines.

Thus the Tuna Club with its branches represents over fifteen hundred men committed to the lightest tackle, — anglers who have given demonstrations of their prowess by taking the largest fishes with tackle so light that it is little wonder that the layman and the alien doubts the facts.

The Light Tackle Club, a branch of the Tuna Club, with nearly one thousand five hundred members, gives a summer tournament, and has a rare collection of prize-cups, medals, etc. The following is its announcement for a recent year:

FOURTH ANNUAL ANGLING TOURNAMENT OF THE CATALINA LIGHT TACKLE CLUB

May 1 to October 1, 1909

Membership

Membership is open to amateurs only, who catch on light tackle, under club rules, a game fish weighing twenty pounds or more. Upon payment of membership fee, $2.50, the secretary will issue a bronze button membership badge. There are no dues.

Schedule Weight of Fish

Buttons Awarded	*Bronze*	*Silver*	*Gold*
Yellowtail	20 lb.	30 lb.	40 lb.
Albacore	20 lb.	35 lb.	50 lb.
White Sea Bass	20 lb.	35 lb.	50 lb.
Tuna	20 lb.	35 lb.	50 lb.

Tackle Specifications

Rod. Length of tip, not less than 5 feet; weight of tip, not to exceed 6 oz.

Butt. Length, not to exceed 14 inches; no restrictions on weight.

Line. Standard nine-thread linen.

Notes. Metal rods, and one-piece rods (without joints or detachable butt) are barred.

By "tip" is meant that portion of rod from outer end of rod to point where same is assembled at butt, with tip fully seated.

Rules

First. If, on examination, at time of weighing, the line is found to be of extra size and strength, the catch will be disqualified.

Second. Tackle must be submitted for inspection to one of the Weighing Committee where catch is weighed.

Third. Any amateur angler may compete for prizes offered, it not being necessary to become a member of the Club in order to do so.

Fourth. Every angler must bring his fish to gaff unaided, and the fish must be reeled in. A broken rod, either before or after gaffing, disqualifies the catch.

Special Awards for the Season of 1909

For Fish Caught at Catalina Island

For the largest Yellowtail, Gold Medallion.
For the second largest Yellowtail, Silver Medallion.
For the third largest Yellowtail, Bronze Medallion.

For the largest White Sea Bass, Gold Medallion.
For the second largest White Sea Bass, Silver Medallion.
For the third largest White Sea Bass, Bronze Medallion.

For the largest Albacore, Gold Medallion.
For the second largest Albacore, Silver Medallion.
For the third largest Albacore, Bronze Medallion.

For the largest Tuna, Gold Medallion.
For the second largest Tuna, Silver Medallion.
For the third largest Tuna, Bronze Medallion.

For Fish Caught at San Clemente Island

For the largest Yellowtail, Gold Medallion.
For the second largest Yellowtail, Silver Medallion.
For the third largest Yellowtail, Bronze Medallion.

For the largest White Sea Bass, Gold Medallion.
For the second largest White Sea Bass, Silver Medallion.
For the third largest White Sea Bass, Bronze Medallion.

An angler can win one Medallion only.

In the event of angler qualifying in two different species of fish, the first fish taken will count.

To win a Gold Medallion, fish must be of Gold Button weight.

If no fish of Gold Button weight is caught, the Silver Medallion will be awarded for the largest, and the Bronze Medallion for the second largest fish taken.

Cups, Medals, and Prizes

CLASS A. LARGEST GOLD BUTTON FISH

For the largest Gold Button fish of the season. — Silver Loving Cup, presented by Mr. Arthur J. Eddy, Chicago, Ill. The winner's name to be engraved on same each season, and the cup to remain the property of and on exhibition with the Club.

CLASS B. TUNA

Medal. For the largest Tuna of the season. — Gold Medal, presented by Brock & Feagans, jewellers, Los Angeles, Cal. The winner's name to be engraved on gold bar each season; medal property of the Club.

Prize. For the largest Tuna of the season — Hand-made light tackle split bamboo rod, presented by the Tufts-Lyon Arms Co., Los Angeles.

CLASS C. YELLOWTAIL

Diamond Medal. For the largest Yellowtail of the season. — Diamond Medal, presented by Mr. Donald B. Gillies, Tonopah, Nev. Winner's name to be engraved on gold bar each season; medal property of Club.

Cup. For the largest Yellowtail of the season. — Silver Loving Cup, presented by the Western Hardware & Arms Company of Los Angeles. The winner's name to be engraved on same each season, and the cup to become the property of the angler winning it two times.

Burns Cup. Presented by Col. Dan M. Burns to Catalina Light Tackle Club for *lady angler* catching largest Yellowtail.

Pennant. For the largest Yellowtail of the season taken by a *lady angler.* — Catalina Light Tackle Club Silk Pennant, presented by Dyas-Cline Co., of Los Angeles, to the angler winning it two times.

Prize. For the largest Yellowtail of the season, exceeding his record (60½ pounds). — Gold ring, made by native gold workers of Madras, India, presented by Mr. W. W. Simpson, of England.

Prize. For the largest Yellowtail of season. — Split bamboo rod, presented by Wm. Hunt, Jr., Avalon, Cal. Rod presented at close of tournament.

CLASS D. ALBACORE

Gold Medal. For the largest Albacore of season. — Gold Medal, presented by H. J. Whitley Co., jewellers, Los Angeles, Cal. The winner's name to be engraved on gold bar each season. Medal property of the Club.

Cup. For the largest Albacore of season. — Silver Loving Cup, presented by the W. H. Hoegee Company, Los Angeles, Cal. The winner's name to be engraved on same each season, and the cup to become the property of the angler winning it three times.

Cup. Presented by Montgomery Bros., jewellers, Los Angeles, Cal., to Catalina Light Tackle Club for the largest Albacore of the season taken by a *lady angler.* Winner's name to be engraved on the cup each season. Cup to remain in the custody of the Club and a miniature cup to be presented to winner.

Prize. For the largest Albacore of the season. — African steel cane rod, presented by Catalina Novelty Company, Avalon, Cal.

CLASS E. WHITE SEA BASS

Gold Medal. For the largest White Sea Bass of the season. — Gold Medal, presented by Mr. T. McD. Potter, of Los Angeles. Cal. Winner's name to be engraved on gold bar each season, and the medal to remain the property of the Club.

Cup. For the largest White Sea Bass of the season. — Silver Loving Cup, presented by Nordlinger & Sons, jewellers, Los Angeles, Cal. Winner's name to be engraved upon same each season, and the cup to become property of angler winning it two times.

CLASS F. LARGEST FISH

Gold Medal. For the largest fish of the season (including Black Sea Bass) taken with nine-ounce rod and standard nine-thread linen line. — Medal, presented by Edwin H. Brewster, Avalon, Cal. Winner's name to be engraved on gold bar each season. Medal to be property of Club.

Prize. For the largest fish of season (including Black Sea Bass) taken with nine-ounce rod and nine-thread line, to *lady angler.* — Light Tackle German silver reel, presented by Catalina Novelty Company, Avalon, Cal.

CLASS G. BOATMEN

Cup. Potter-Streeter Cup, awarded to the boatman obtaining the largest number of members for the Light Tackle Club. Winner's name engraved on cup each season.

Prize. Pair of field glasses for boatman of angler catching largest Yellowtail of season. Presented by the Club.

Prize. Split bamboo rod for boatman of angler catching largest White Sea Bass of season. Presented by the Club.

AWARDS OF CUPS, MEDALS, AND PRIZES FOR THE SEASON OF 1908

FOR THE LARGEST GOLD BUTTON FISH

Eddy Cup. Won by W. W. Simpson, Whalley, Eng. Yellowtail. weight, 60½ pounds.

FOR THE LARGEST TUNA

Brock & Feagans Gold Medal. No award.

FOR THE LARGEST TUNA, SEASONS OF 1907 AND 1908

Tufts-Lyon Arms Co. Cup. Won (in 1907) by E. J. Polkinhorn, Torreon Coah, Mexico. Weight of fish, 50½ pounds.

FOR THE LARGEST YELLOWTAIL

Gillies Diamond Medal. Western Hardware and Arms Co. Cup. Wm. Hunt, Jr., Prize. Won by W. W. Simpson, Whalley, Eng. Weight of fish, 60½ pounds.

FOR THE LARGEST YELLOWTAIL TAKEN BY LADY ANGLER

Mrs. D. J. F. Willetts Cup. Burns Cup. Dyas-Cline Pennant. Won by Miss D. May Sweezey, Los Angeles, Cal. Weight of fish, 45½ pounds.

FOR THE LARGEST ALBACORE

H. J. Whitley Co. Gold Medal. W. H. Hoegee Co. Cup. Won by O. S. Weston, Los Angeles, Cal., and D. B. McFadden, Atlanta, Georgia. Weight of fish, 35 pounds.

FOR THE LARGEST ALBACORE TAKEN BY LADY ANGLER

Montgomery Bros. Cup. Alligator Hand Bag. Won by Mrs. F. M. Leatherman, Fort Worth, Texas. Weight of fish, 34 pounds.

FOR THE LARGEST WHITE SEA BASS

Potter Gold Medal. Nordlinger & Sons Cup. Won by S. A. Barron, El Paso, Texas, and A. L. Beebe, Portland. Oregon. Weight of fish, 40 pounds.

FOR THE LARGEST FISH

Brewster Gold Medal. Won by P. S. O'Mara, Salt Lake City. Black Sea Bass. Weight, 240 pounds.

FOR THE LARGEST FISH TAKEN BY LADY ANGLER

Gold Bracelet. Won by Miss D. May Sweezey, Los Angeles, Cal. Yellowtail. Weight, 45½ pounds.

FOR BOATMEN

Potter-Streeter Cup. For obtaining largest number of members to Club. Won by Chappelle.

Catalina Novelty Co. Prize. For boatman to angler taking largest Albacore of season. Won by Chappelle.

Island Pharmacy Co. Prize. For boatman to angler taking largest Yellowtail of season. Won by Geo. Michaelis.

Club Prize. For boatman to angler taking largest White Sea Bass of season. Won by T. Gray.

MEMBERS ADDED TO THE CLUB, AND BUTTONS WON

DECEMBER 1, 1907, TO APRIL 30, 1909

Bronze Buttons

Atterbury, A. P., New York City, N. Y.
Avery, J. H., Detroit, Mich.
Atkinson, J. B., Phoenix, Ariz.
Alvarez, Luis, Chihuahua, Mex.
Blackstone, H. W., Los Angeles, Cal.
Bradley, John, Brooklyn, N. Y.
Black, Mrs. C., New York City, N. Y.
Black, H. W., New York City, N. Y.
Barclay, H. H., Los Angeles, Cal.
Bryant, Dr. A. L., Glendale, Cal.
Boardman, W. F., San Francisco, Cal.
Barton, C. V., Los Angeles, Cal.
Blossom, Benj., Pasadena, Cal.
Baker, E. N., Needles, Ariz.
Bates, Miss Louise, Los Angeles, Cal.
Boyle, W. M., Los Angeles, Cal.
Burnham, W. H., Orange, Cal.
Blackwell, John H., Los Angeles, Cal.
Brown, J. G., Blackport, Idaho.
Clark, A. T., Newton Centre, Mass.
Coffin, C. H., Boise, Idaho.
Crosby, Mrs. F. M., Minneapolis, Minn.
Campbell, W. A., Sewicksley, Pa.
Colley, F. L., Detroit, Mich.
Cunningham, W. L., St. Louis, Mo.
Citron, J., San Francisco, Cal.
Caldwell, S., Los Angeles, Cal.
Crow, Dr. S. S., St. Louis, Mo.
Cooley, F. C., Salt Lake City, Utah.
Cooley, Mrs. F. C., Salt Lake City, Utah.
Cox, Clay, New York City, N. Y.
Cook, Mrs. G. T., Kansas City, Mo.
Coffin, J. E., Hollywood, Cal.
Calery, C. D., Pasadena Cal.
Duryee, Gen. J. E., Los Angeles, Cal.
DeNeuptire, Jacques, Paris, France.
DeWitt, Jack, Colorado Springs, Col.
Davidson, M. L., Los Angeles, Cal.
Douglas, Dr. John, New York City, N.Y.
Dolge, Fritz, Dolgeville, Cal.
Dyas, E. H., Los Angeles, Cal.
Davies, F., Los Angeles, Cal.

Davis, Mrs. E., Santa Barbara, Cal.
Dawson, Major, Mills City, Mont.
Daniels, J. V., London, Eng.
Evans, Mrs. V., Fort Worth, Tex.
Ennis, Wm., Decatur, Ill.
Fealbo, G. W., Saginaw, Mich.
Fowler, John, Lafayette, Ind.
Ford, E., Alhambra, Cal.
Ford, T., Pasadena, Cal.
Ford, Mrs. T., Pasadena, Cal.
Ford, E. M., Los Angeles, Cal.
Fuinall, J. E., Los Angeles, Cal.
Foster, R. W., Mankato, Minn.
Foster, E. A., Los Angeles, Cal.
Graham, H., Detroit, Mich.
Gloire, C. F., Chicago, Ill.
Gibson, R. V., Newark, N. J.
Goodwin, W. L., San Francisco, Cal.
Griffith, Chas. L., Pleasanton, Cal.
Gentry, R., Corcoran, Cal.
Greenbaum, A., Los Angeles, Cal.
Griffin, H. T., Berkeley, Cal.
Garth, J. G., Los Angeles, Cal.
Garr, C. H., Los Angeles, Cal.
Henderson, Geo., Eureka, Cal.
Hamer, M. C., Minneapolis, Minn.
Hill, Mrs. L. W., St. Paul, Minn.
Holabird, R. D., Los Angeles, Cal.
Hillis, C. C., San Francisco, Cal.
Hamlin, O. C., Minneapolis, Minn.
Huffman, I. E., Tucson, Ariz.
Halstead, S., Pasadena, Cal.
Hawley, W. C., New York City, N. Y.
Hawkins, C. A., San Francisco, Cal.
Hoag, W. S., Los Angeles, Cal.
Houghton, Dr. H. L., Boston, Mass.
Howell, A. B., Catonsville, Md.
Ironmonger, Mrs. Chas., Avalon, Cal.
Johnston, A. S., Los Angeles, Cal.
Justice, H. P., Santa Monica, Cal.
Johnston, W. H., Birmingham, Ala.
Kidder, Mrs. G., Kalamazoo, Mich.
Kendall, J., Pasadena, Cal.
Kelly, Miss D., New York City, N. Y.
Kistler, W. R., Columbus, Ohio.
Keane, Thos., Goldfield, Nev.
Ketelsen, C. E., Chihuahua, Mex.
Ketelsen, Mrs. C. E., Chihuahua, Mex.
Kupfel, A. G., New York City, N. Y.
Kempner, A., New York City, N. Y.
Knapp, J. B., Jr., Oakland, Cal.
Lomax, F. J., London, Eng.
Leatherman, D. M., Blair, Okla.
Leatherman, Mrs. F. M., Fort Worth.
Lamont, Miss M. B., Long Beach, Cal.
Lee, B. P., Los Angeles, Cal.
Lippincott, Miss Rose, Los Angeles, Cal.
Louis, H. B., Mexico City, Mex.
Loomis, L. D., Los Angeles, Cal.
Lewis, W. F., Syracuse, N. Y.
Logan, Dr. R. C., San Francisco, Cal.
McMillian, J. C.
Metheany, R. R., Zanesville, Ohio.
McNab, John, Louisville, Ky.
McConnell, E. G., San Francisco, Cal.
Montgomery, A. E., San Francisco, Cal.
May, J., Pasadena, Cal.
Morse, W., Hermosa Beach, Cal.
Marshall, Mrs. C., San Francisco, Cal.
McClelland, T. E., Kingman, Ariz.
McDonald, F. A., Los Angeles, Cal.
Mayo, E. C., Oakland, Cal.
Mooney, P., Jersey City, N. J.
May, E. C., Pasadena, Cal.
Mesmer, L. F., Los Angeles, Cal.
McClure, C. D., Los Angeles, Cal.
Moore, Miss Mary, Kansas City, Mo.
McKelvey, J. A., Los Angeles, Cal.
Myers, D. E., Los Angeles, Cal.
Maurer, H. R., Los Angeles, Cal.
McFadden, D. B., Atlanta, Ga.
Miles, E. C., San Francisco, Cal.
Myrtle, F. S., San Francisco, Cal.
Miller, B. K., Milwaukee, Wis.
Munn, A. T., Los Angeles, Cal.
Nickerson, W. G., Dedham, Mass.
Nickerson, Mrs. W. G., Dedham, Mass.
Nickerson, Miss Ruth, Dedham, Mass.
Nestell, R. J., Avalon, Cal.
Newmark, M. R., Los Angeles, Cal.
Newell, Lloyd, Los Angeles, Cal.
Parsons, V. F., Los Angeles, Cal.
Peterkin, Dr. G. S., Seattle, Wash.
Pearce, F. J., Needles, Ariz.
Powell, D. E. L., New Orleans, La.
Parkins, C. C., Pasadena, Cal.
Parker, M. B., El Paso, Texas.
Platz, J. C., Los Angeles, Cal.
Pillsbury, G. E., Los Angeles, Cal.
Putnam, H. R., Chicago, Ill.
Parker, C. D., Kansas City, Kan.
Parsons, A. H., Cleveland, Ohio.
Plummer, W. E., Bradford, Eng.
Peake, C. A., San Pedro, Cal.
Pratt, Dr. W. A., New York City, N. Y.
Ryus, D. W., Topeka, Kan.

Reed, Jos., Catonsville, Md.
Ratliff, W. E., Long Beach, Cal.
Randolph, M. C., Aurora, Ill.
Randolph, Mrs. M. C., Aurora, Ill.
Rogers, G. B., Racine, Wis.
Robins, A. C., Los Angeles, Cal.
Rand, E. D., Los Angeles, Cal.
Rogers, Dr. W. W., Pasadena, Cal.
Reed, Geo. A., Grand Canyon, Ariz.
Rose, Roy, Los Angeles, Cal.
Redewill, C., Phoenix, Ariz.
Rogers, R. J., Los Angeles, Cal.
Ramsey, R., Cincinnati, Ohio.
Ramsey, Mrs. R., Cincinnati, Ohio.
Sheldon, C. M., Avalon, Cal.
Sutton, Mrs. G. M., San Francisco, Cal.
Smith, J. H., Milwaukee, Wis.
Stamm, I. B., Los Angeles, Cal.
Sessions, C. H., Los Angeles, Cal.
Sturdevant, C. V., Pasadena, Cal.
Salisbury, E. A., Los Angeles, Cal.
SoRelle, Miss Mary, Los Angeles, Cal.
Strachan, W. A., Monrovia, Cal.
Stone, W. P., Los Angeles, Cal.
Suess, J. J., Redlands, Cal.
Stone, L. D., Avalon, Cal.
Stephens, F. J., Pasadena, Cal.
Strange, R. R., Los Angeles, Cal.
Simler, Geo., New York City, N. Y.
Smythe, S. J., Great Barrington, Mass.
Stephens, B. H., New Harmony, Ind.
Simpson, W. W., Whalley, Eng.
Trotter, Melvin E., Grand Rapids, Mich.
Touretto, C., Chicago, Ill.
Tutt, Chas. L., Colorado Springs, Col.
Tutt, Mrs. C. L., Colorado Springs, Col.
Tutt, C. L., Jr., Colorado Springs, Col.
Taylor, Mrs. D., Salt Lake City, Utah.
Townsend, H. A., Columbus, Tex.
Thornton, A. W., San Francisco, Cal.
Thomas, H. G., Oakland, Cal.
Thomas, Mrs. H. G., Oakland, Cal.
Titcomb, H. A., London, Eng.
Titcomb, Mrs. H. A., London, Eng.
Taliaferro, S. W., Los Angeles, Cal.
Uhlman, V. R., Poughkeepsie, N. Y.
Van Bergen, Mrs. Chas., Buffalo, N. Y.
Van Dusen, W. W., Los Angeles, Cal.
Vigus, C., Los Angeles, Cal.
Walker, R. A., Chicago, Ill.
Wolf, E. P., San Francisco, Cal.
Williams, H., Grand Rapids, Mich.
Woods, L. C., Pittsburg, Pa.
Wallace, Mr., Lafayette, Ind.
Wagner, Mrs. C. B., Los Angeles, Cal.
Wendle, E., Avalon, Cal.
Wicks, D. M., Youngstown, Ohio.
Warden, H. P., Pasadena, Cal.
Warden, Mrs. H. P., Pasadena, Cal.
Watkins, W. L., Pasadena, Cal.
West, T., San Diego, Cal.
Wingfield, Geo., Goldfield, Nev.
Wheeler, M. E., Lincoln, Neb.
Wheeler, Mrs. M. E., Lincoln, Neb.
Whittemore, J. R., Santa Barbara, Cal.
Wright, G., Guaymas, Mex.
Walker, W., Notts, England.
Williams, W. S., Goldfield, Nev.
Whay, F. R., Boston, Mass.
Youngworth, L. V., Los Angeles, Cal.

Silver Buttons

Brophy, W. H., Bisbee, Ariz.
Bushnell, J. F., Hollywood, Cal.
Beach, C., New York City, N. Y.
Bacon, C. M., Benridge, Minn.
Cassidy, T. M., New York City, N. Y.
Cosgro, J. P., San Francisco, Cal.
Croxton, F. T., Monrovia, Cal.
Dudley, B., Los Angeles, Cal.
DeWitt, Mrs. T. T., Colorado Springs.
Elliot, A. H., Oakland, Cal.
Evans, B., Fort Worth, Texas.
Fetters, G., Los Angeles, Cal.
Fenger, F. A., Minnetka, Ill.
Graff, R. M., Pittsburg, Pa.
Hubbard, L. D., Fruitvale, Cal.
Hudson, F. D., Los Angeles, Cal.
Hart, E. W., Goldfield, Nev.
Haight, G. W., Los Angeles, Cal.
Howard, G. A., Los Angeles, Cal.
Hay, W. H., Hollywood, Cal.
Hill, L. W., St. Paul, Minn.
Hodgson, G. H., Hexton Manor, Eng.
Holden, A. J., Bennington, Vt.
Kidder, W. E., Kalamazoo, Mich.
Kremer, A., Los Angeles, Cal.
Keeney, R. W., Los Angeles, Cal.
Leatherman, F. M., Fort Worth, Tex.
May, C. E., Avalon, Cal.
McCousland, B. W., Los Angeles, Cal.
Moore, S. W., Kansas City, Mo.

Matthews, J. S., Covina, Cal.
Mattison, Dr. F. C. E., Pasadena, Cal.
Newcomb, Dr. A. T., Pasadena, Cal.
Nickerson, R. W., Dedham, Mass.
Palmer, Dr. E. O., Hollywood, Cal.
Pitney, Mrs. Pauline, Los Angeles, Cal.
Robinson, Mrs. H. W., Los Angeles, Cal.
Ricketts, P. de C., Cananea, Mex.
Reed, Mrs. J., Catonsville, Md.
Randolph, T. F., Morristown, N. J.
Stapers, R. R., Avalon, Cal.
Sanders, C. B., Redlands, Cal.
Stephens, Ferd., Terre Haute, Ind.
Thompson, M. S., Boston, Mass.
Taber, R. G., Red Wing, Minn.
Vigus, Thos., Los Angeles, Cal.
Van Bergen, Dr. Chas., Buffalo, N. Y.
Ward, S., Los Angeles, Cal.
Williams, B., Los Angeles, Cal.
Woodruff, Atty. Gen., Wash., D.C.
Young, C. J., San Francisco, Cal.

Gold Buttons

Barron, S. A., El Paso, Tex.
Brewster, E. H., Avalon, Cal.
Beebe, A. L., Portland, Oregon.
Coomber, H. W., Los Angeles, Cal.
Conn, C. G., Elkhart, Ind.
Dyas, R. J., St. Louis, Mo.
Elliott, E., Los Angeles, Cal.
England, A. S., St. Louis, Mo.
Fitch, Dr. Warren, Pomona, Cal.
Fitch, Mrs. Warren, Pomona, Cal.
Flint, Sen. F. P., Washington, D. C.
Goodwin, A. K.
Hunt, Wm., Jr., Avalon, Cal.
Heinchen, H. C., Los Angeles, Cal.
Lefebre, E. E., Los Angeles, Cal.
McIntyre, J. W., Catlin, Ill.
Murphy, L. G., Converse, Ind.
McMaster, D. J., Los Angeles, Cal.
McCousland, G. W., Chihuahua, Mex.
Pinchot, Gifford, Washington, D.C.
Robinson, O. R. W., Los Angeles, Cal.
Rotherham, R. N., San Dimas, Cal.
Simpson, W. W., Whalley, Eng.
Sweesey, Miss D. May, Los Angeles, Cal.
Weinheimer, F. W., St. Louis, Mo.
Weigman, F. W. J., Philadelphia, Pa.
Wilson, J. W., Los Angeles, Cal.
Walthall, W. E., Los Angeles, Cal.
Warren, S., Los Angeles, Cal.

L. P. STREETER, *Secretary.*

Avalon, California.

Then comes the Three-Six Club, also a branch of the Tuna Club. It has cups and prizes, and may be said to be the thirty-third degree in sea-angling. It was designed by Mr. T. McD. Potter, of Los Angeles, to reduce sea-angling to its finest expression. To contest for its prizes the angler must fish with a six-ounce rod not less than six feet long, and with a line of but six strands, or a breaking strain of twelve pounds. As the nine-ounce and the Three-Six rods are now universally used in Southern California, at Monterey, and tackle-makers adapt themselves to the club rules, the reader can see what an influence

for high standards this club has had, representing the active influence of over fifteen hundred anglers and the Eastern clubs which have adopted their light-tackle methods. A recent announcement of this club is as follows:

CATALINA THREE-SIX CLUB

Under Auspices of Tuna Club

Founded 1908 for Yellowtail

TACKLE SPECIFICATIONS

Rod. Six feet; weight, 6 oz.
Line. Six-thread
Butt. Twelve inches.

TUNA CLUB RULES

First degree, 18 pounds; second degree, 24 pounds; third degree, 30 pounds.

SEASON OF 1909

Total number anglers qualifying, 66; first degree, 37; second degree, 18; third degree, 11.

CUPS AND PRIZES

Potter Three-Six Cup. The names of the anglers catching the three largest fish of the season in Catalina waters engraved on cup each season; these names for 1909:

T. McD. Potter ..... weight 36 pounds
A. K. Goodwin ..... weight 34¾ "
Mrs. P. S. O'Mara ..... weight 33 "

Potter-Streeter Boatman's Prizes. Cup for boatman qualifying most men. Won by Chappelle.

Cups for boatmen of anglers catching two largest fish. Won by Percy Neal and Chas. A. Fisher.

T. S. MANNING, *Secretary.*

Avalon, California.

At the end of the tournament the club announces the winners, its corresponding secretary, Mr. C. V. Barton, of Los Angeles, and Mr. Seymour Locke, of

New York, sending out the notices to the members. A typical notice of 1909 is as follows:

TROPHIES AWARDED

FOR THE LARGEST TUNA OF SEASON OVER 100 POUNDS

Banning Cup. Montgomery Bros. Cup. Tuna Club Medal. Won by P. S. O'Mara, Salt Lake City, Utah. Weight of fish, 153 pounds.

FOR FIRST TUNA OF SEASON OVER 100 POUNDS

J. E. Pflueger Prize Reel. Won by A. C. Brode, Los Angeles, Cal. Weight of fish, 126 pounds.

FOR SMALLEST TUNA OF SEASON

Holder Cup. Won by A. W. Hooper, Boston, Mass. Weight of fish, 69 pounds.

FOR LARGEST BLACK SEA BASS OF SEASON

Rider-Macomber Medal. Won by R. C. Baird, San Francisco, Cal. Weight of fish, 394 pounds.

FOR LARGEST SWORDFISH OF SEASON

Holder Swordfish Cup. Won by C. G. Conn, Elkhart, Ind. Weight of fish, 339 pounds.

FOR LARGEST YELLOWTAIL OF SEASON

* *John F. Francis Medal.* * *Eddy Light Tackle Cup.* Won by C. E. Ellis, Spokane, Wash. Weight of fish, 48¼ pounds.

FOR THE LARGEST YELLOWTAIL OF SEASON CAUGHT BY A LADY

* *Nordlinger Ladies' Cup.* Won by Mrs. H. W. Robinson, Los Angeles, Cal. Weight of fish, 43¼ pounds. Souvenir cup to winner.

FOR LARGEST ALBACORE OF SEASON OVER 40 POUNDS

* *Streeter Medal.* Won by S. A. Guy, Shreveport, La. Weight of fish, 43¼ pounds.

FOR BOATMAN OF ANGLER TAKING LARGEST YELLOWTAIL IN CATALINA WATERS

* *Baker Prize Kodak.* Won by William Matthews, Avalon, Cal.

FOR LARGEST GAME FISH CAUGHT ON LIGHTEST TACKLE

Shaver Prize Rod. Won by A. L. Beebe, Portland, Oregon. White Sea Bass; weight, 46¼ pounds; caught on Three-Six tackle.

L. P. STREETER, *Secretary.*

P. O. Box 1152, Pasadena, California.

* Light Tackle Competition.

LARGEST ALBACORE (*Thunnus alalonga*)

Chas. W. Miller, Denver, Col., season 1901 30
Ernest Fallon, Los Angeles, Cal., season 1902 35
John Van Leiw, Los Angeles, Cal., season 1903 38
Stewart Ingram, Los Angeles, Cal., season 1904 46
I. C. Pillster, Denver, Col., season 1905 48
* Gustave J. Frickman, N. Y. City, season 1906 ..... 38½
* A. B. Cass, Los Angeles, Cal., season 1907 ..... 41½
* C. R. Sturdevant, Pasadena, Cal., season 1908 ..... 43½
* J. W. McIntyre, Catlin, Ill., year 1908 ..... 65 lbs., 3 oz.
* S. A. Guy, Shreveport, La., season 1909 ..... 43½

LARGEST SWORDFISH (*Tetrapturus*)

Edward Llewellyn, Los Angeles, Cal., season 1903 125
Ernest Fallon, Los Angeles, Cal., season 1905 128
Geo. E. Pillsbury, Jr., Los Angeles, Cal., season 1908 138
C. G. Conn, Elkhart, Ind., season 1909 339

TROPHIES UNEARNED

FOR EXCEEDING THE CLUB TUNA RECORD, 251 POUNDS

Burns Tuna Cup. Morehouse Cup. Edward Vom Hofe Prize.

FOR TUNA OVER 180 POUNDS, 1898 CLUB RULES

Earlscliffe Tuna Cup.

FOR LARGEST RED BUTTON TUNA OF SEASON

* *Potter Tuna Cup.*

FOR EXCEEDING THE CLUB'S BLACK SEA BASS RECORD (436 POUNDS)

Tufts-Lyon Cup.

FOR LARGEST WHITE SEA BASS OF SEASON OVER 60 POUNDS

C. H. Harding White Sea Bass Medal.

FOR LARGEST BONITO OF SEASON

F. L. Harding Bonito Cup.

"What is accomplished by all this?" the layman will ask. This: Where with a big hand-line a fisherman of the "game hog" variety could formerly pull in a thirty-pound yellowtail in from three to five minutes,

* Light Tackle Competition.

with the light tackle advocated it requires from twenty minutes to half an hour, and often an hour. The slaughter of many fishes is prevented, and the sport is enhanced a thousand-fold by the use of the delicate rod and line. This is deemed reform, conservation, along humanitarian lines, by the Tuna Club; in fact, the motto of the Three-Six Club is "More sport, less fish."

CHAPTER VIII

A REMARKABLE CATCH

(*The Black Sea Bass*)

THAT the work of the clubs of the Channel Islands in elevating the standard of angling is being appreciated all over the country, is shown by the adoption of its methods and the use of light tackle. To-day all the large fishes, except the leaping tuna, are taken with a nine-thread line and a nine-ounce rod, and many of them with a six-ounce rod. The photographs which accompany this chapter were taken at my request to illustrate the catch by Mr. Alfred L. Beebe, of Portland, of a large bass with the nine-ounce rod and nine-thread line, which had been tested to a dead weight of but eighteen pounds. The photographs tell the entire story of an extraordinary catch, from the time Mr. Beebe stepped aboard his launch, and Tad Gray, his clever boatman, pushed off, until he stood by the Tuna Club scales at night and saw the game weighed.

The launches described are peculiar to the islands. The angler has every comfort. He can go out in a white flannel suit, if he is so disposed, and need not bedeck himself in attire that will alarm the denizens of the deep by its weird design or antiquity. In a word, the angler sits comfortably, facing the stern; the boatman, gaffer, engineer, and guide, who is just behind

him, baits the hook, gaffs the fish, manipulates the craft, keeping her stern to the same; so the angler does nothing but fish. It is a question whether some old-time anglers who carry bait in their pockets wish to be so uncomfortably comfortable.

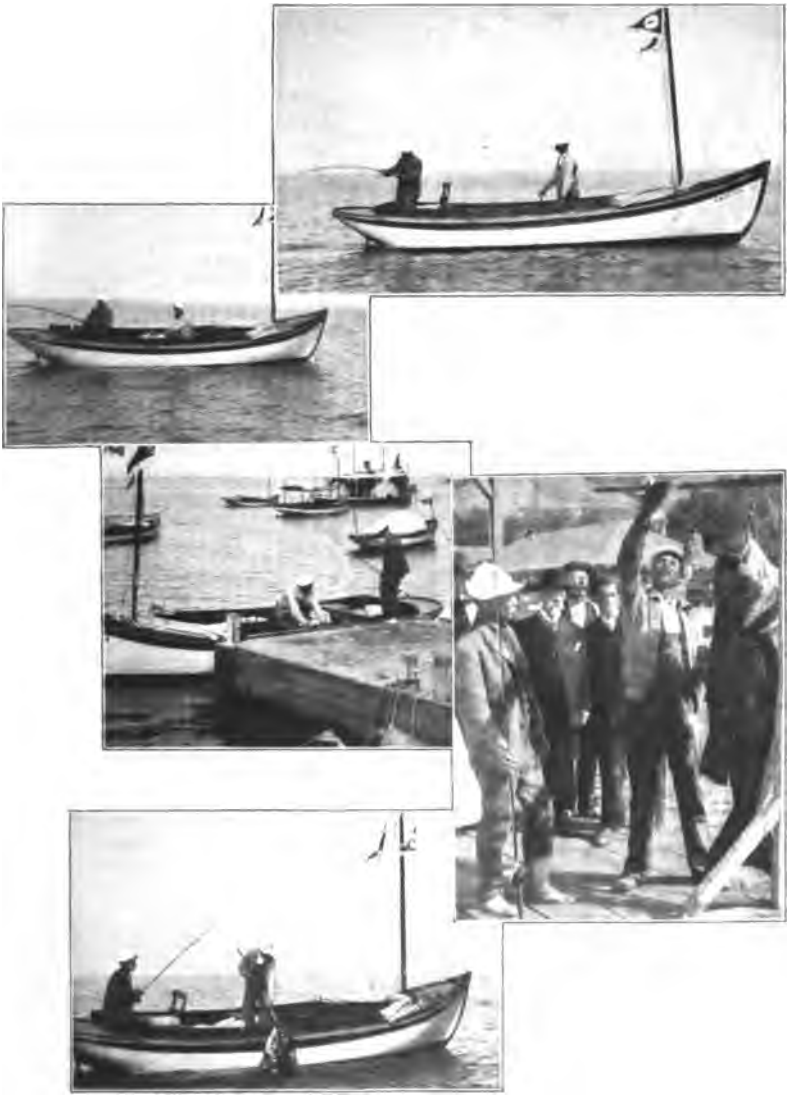
The angler has notified his boatman to be at the private pier of the Tuna Club at seven A.M., and a few moments later is gliding out of the little bay over perfectly smooth water in which are reflected the rich colors and tints of the surrounding cliffs and shores. Down the coast they go, never more than a hundred feet or so from the rocks, and in the hour's run there is an opportunity to examine the tackle. The rod is of split bamboo, about seven feet long (a single joint and short butt), and weighs just nine ounces, about an ounce heavier than the pet rod of some black-bass anglers. The line is a number nine, linen thread; it has nine strands and is tested to withstand a dead weight of eighteen pounds. The reel is the best that can be had, and holds eight or nine hundred feet of line, marked at fifty, seventy-five, one hundred, and one hundred and fifty feet with colored silk. The leader is the finest steel piano wire, about the size of a gut trout leader, and is six or seven feet long, with a light sinker, a line saver, and two swivels. The hook, a 7-0 O'Shaughnessy, larger or smaller, according to whim or fancy. When a hook comes in not baited the gaffer does not stop to bait a hook; he merely unsprings the hook of the leader from the line, hooks on another, which he has ready, and tosses it over; so the angler does not lose a moment in the baiting process.

This is when fishing for yellowtail, but the game on

this day is the giant black sea bass, which attains a weight of four hundred pounds, and which lives in the great kelp beds that shut in the island from the outer sea. The bait is not æsthetic; it is an eight-pound whitefish or a piece of albacore weighing six or seven pounds.

Arriving on the grounds near the kelp the boatman drops anchor, rigs a buoy which he can toss over at a moment's notice, then in water forty or fifty feet deep the bait is cast, and the waiting, a part and parcel of all angling, begins. Sometimes I have had a strike from these giant bass in five or ten minutes; sometimes they have taken my bait as soon as it went over; again, moments blended into hours before a strike came; or it did not come at all, and it is then that the angler solaces himself with the reflection that if fishes bit all the time it would soon become a wearying affair at best. On this occasion Mr. Beebe waited fifteen or twenty minutes. A shark or two carried off the bait — a melancholy sign, of ominous import; then what he supposed was another shark took the bait; the reel slowly and deliberately gave tongue — *click, click, click!* and then, by that prescience or intuition which is an inherent possession of anglers, he knew it was the game he was after. He paid out line slowly, as the big bass is a queer fellow, dainty in a way and deliberate as Solon himself; and as the angler over-reeled and gave line, the boatman cast off his buoy. Then the angler allowed the line to come taut for a moment and, with a firm sway on the resilient rod, hooked the game.

Perhaps you have seen, in the tropics, a squall come on so quickly that it appeared to strike you a blow



EXPERIMENTS IN ANGLING

The strike — Waiting for the strike — Mr. A. L. Beebe goes aboard his launch — Weighing the fish — Gaffing the big black sea bass

SUCCESSFUL SEA-ANGLERS

Big yellowtail taken by Mr. A. L. Beebe and Mr. Hunt — Gifford Pinchot gaffing yellowtail

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in its suddenness. A quick-moving cloud appears, coming on and spreading out like the shades of destruction, and like the charge of the Furies it strikes you. That is what has happened to our angler. A second ago he was lazily paying out line inch by inch; now his rod is bending to its limit; the line, taut as a violin string, is hissing through the blue water, and *mirabile dictu!* towing the launch. From absolute quiet and ease he is hurled into a maelstrom of excitement. That unknown, unseen fish, which may weigh four hundred, or even eight hundred pounds, has headed out to sea for a deeper haunt where the long, snake-like kelp vines coil and writhe in the blue Kuro Shiwo as it sweeps down the island shores. There is something weird in the first stage of hooking this fish; its power is so great, there is such an impossible chance, so heavy a strain, as though the whole bottom were moving away.

Of course it may be a shark or a big angel-fish; but in a few moments the earmarks of the big bass are evident, and the angler settles down for a long fight. The launch now backs after it at a four- or five-mile-an-hour gait, and the angler with his light rod vainly endeavors to stop it; but as well might he try to stay the tide, for the fish may be of almost any weight; an eight-hundred-pounder, eight or nine feet in length, was once taken in the Gulf of California. The line that holds this one will break at just eighteen pounds. An ounce over that, a trifle too much pressure with the soft thumb stall which you use as a brake, a mistake in judgment, and the game is up.

But the angler is on the *qui vive*. The long, steady tow suddenly ends, and like savage blows from the

shoulder come jerks and rushes which make the reel sing, *z-e-e-e-e-e-e z-e-e-e-e!* and send the blood bounding through the veins. The angler is sitting with the butt of the rod in the leather socket in the seat, which gives him a powerful leverage, and by this slender rod and line the fish is towing the heavy launch. There is an outside kelp bed, a veritable forest which these fishes bear in mind, and they invariably rush for it, towing the boat. This bass has not forgotten the retreat, seemingly knowing that once wound in and out among the vines this strange incubus pulling at its jaw will be removed.

The angler puts on all the strain he can and by good luck stops the fish in half an hour, the big creature hammering at the line, giving lusty blows, coming in ten or twenty feet, to turn and make a savage rush impossible to stem, taking twenty or thirty more feet of line from the reel. It has now been turned away from the menacing floating garden of kelp, and is towing the launch steadily out to sea by about two hundred and fifty feet of line.

As the launch shoots astern the angler gains a few feet, then loses; but always this tremendous strain, the rod bending, the line thrilling, humming, vibrating, the battle for supremacy continues. Have you ever held a rod on your left side, with something pulling desperately at it for an hour? Try it some time, and some idea may be gained of the strain a big fish brings to bear. It affects men differently. I have seen an angler after two hours carried from his boat; others give out in half the time. I have seen a big man so demoralized by the strike and first rush that he dropped the rod; and in my own experience of holding a tuna

for four hours, while it towed my boat ten or twelve miles, the strain on the heart was something to be counted on, for if one is right-handed the strain is all on the left arm. Some men are excitable and violent; palpitation of the heart is the result; others again do not notice it; but there are few anglers who are unmoved physically by the play of this great fish.

The angling so cleverly shown in the accompanying illustrations was skilful in every way, yet the fish gave the angler a hard struggle and he was more or less exhausted, but not wholly on account of the physical strain; there was a nervous tension, due to the fact that the slightest mistake meant disaster, a broken rod or line. But the angler won, and at the end of about an hour and twenty minutes, several miles from the spot where the fish was hooked, he brought it to the surface, held it for a moment as it threshed the water and tossed the spume over the boat; then the gaffer slipped his hook beneath its head and held it, and the little nine-ounce rod had won.

A rope was passed through the gills and mouth of the six-foot bass, then it was given its quietus, hauled aboard, and laid across the stern. The launch, with its flags of victory flying, then sped for home, where a crowd met the angler and watched the hoisting of the fish onto the Tuna Club scales, and the entry of the record by the Weighing Committee was made — a very solemn and serious performance, at least to sea-anglers who do not particularly fancy standing up to be photographed with a dead fish, but permit it, as in no other way can the relative size between fish and angler be shown. This one-hundred-and-fifty-pound black sea bass when photographed alone would look like an

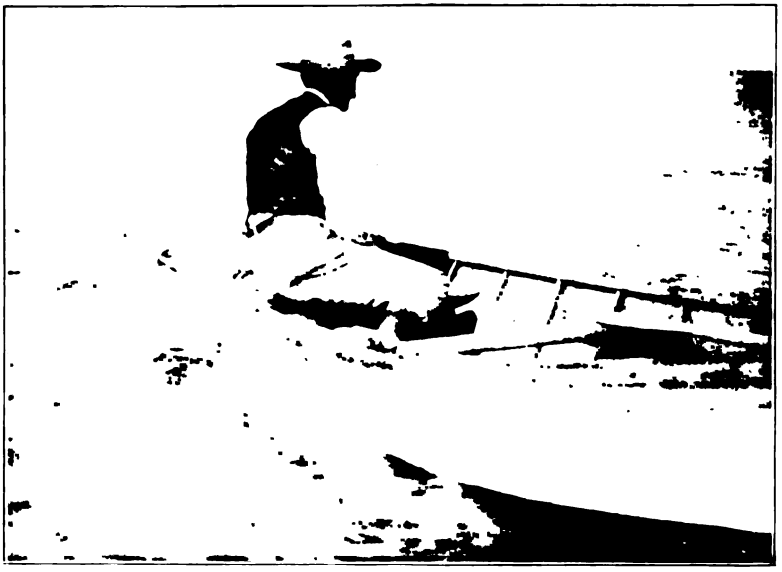
ordinary fish and might be any size, but when seen beside the angler it looms up as big as the man himself.

Mr. Alfred L. Beebe, who took this fish with the nine-ounce rod and nine-thread line, has made some remarkable catches with light tackle, among which is a yellowtail of forty-eight and one-half pounds,—the record for some time,—which he took at San Clemente Island, California, in 1908. This fish doubtless made a harder fight, at least a more active one, than this black sea bass. But, for the purpose of contrast, the bigger the fish the more credit seems to go to the angler and his dainty tackle.

Catching big game at sea is a strenuous sport, to which, I fancy, a man must be born; for many sportsmen indulge in it. It is a matter of congratulation that, in its comparatively short history, its few votaries have brought it to such a high standard. Thirty years ago a man would have been laughed at, had he suggested catching a fish as big as himself with rod and reel. There was no such thing as a tarpon reel or a tuna reel, and commercial fishermen even considered it extremely hazardous to hook a big, powerful fish like a tuna. I recall being told but a few years ago that men had been jerked overboard by tuna and drowned. To-day there are any number of anglers who think nothing of catching a tarpon or a tuna weighing as much as two hundred pounds with a rod weighing less that twenty ounces and a twenty-one-thread line, tested to withstand a dead weight of forty-two pounds. They would think a great deal, however, of performing the same feat with tackle similar to that used by Mr. Beebe in taking the fish shown

A LADY'S CATCH

Black sea bass, 416 pounds, taken with rod and reel by Mrs. A. W. Barrett—Jim Gardner, gaffer



GIFFORD PINCHOT FISHING FOR BLACK SEA BASS AND FOR BONITO—MEXICAN JOE, BOATMAN

here, and since this catch Mr. Beebe has taken tarpon with the nine-ounce rod and number nine line at Aransas.

The black sea bass, known to science as *Stereolepis gigas*, is peculiar to this coast and California, ranging from the Bay of Monterey, where it is not common, down to the Gulf of California, where it attains vast size, specimens which weighed eight hundred pounds having been taken in the latter region. It is a kelp-loving fish, frequenting these vast forests of the Californian seas; a ponderous giant which at times seems to run in schools but more often prowls about alone. It is common at all the Channel Islands, especially Santa Catalina. One of the best fishing-grounds is at the "fence," back of Avalon, where I have had many a bout with them in the old days. Pebble Beach, near Avalon, was then a good ground, and I have seen a two-hundred-pounder prowling about the dock.

The black sea bass begins to bite in May or June, often earlier. It is caught in the largest numbers in July and August, when it is spawning. That its eggs are deposited here there seems little doubt, yet the angler is rare who has seen a black sea bass under one or two pounds weight. Nearly all the fishes taken run from a hundred and fifty pounds to three hundred pounds; the record rod catch, by Mr. Murphy, is four hundred and thirty-six pounds. The smallest one I ever took with a nine-ounce rod and nine-line weighed about eighty-seven pounds. This was at San Clemente. Recently while I was fishing here with Gifford Pinchot we frequently saw a big bass beneath our boat. It was a fascinating sight — to

see this colossal fish moving slowly about not fifteen feet below, browsing, as it were, along the sides of this mountain of the sea. I have seen these fishes in the act of biting, standing on their heads literally, toying with the bait, taking it up to drop it, and when they felt the hook, dashing away with a force which tossed the heavy leaves of kelp about like chaff.

In winter the bass doubtless go offshore to some of the banks or into deep water, from which they are often hooked and caught. They are common around the Coronados. Mr. C. G. Conn, who has a sea bat twenty-five feet across to his credit, found them in great numbers about the islands of the Gulf of California, and made some record catches in 1908–09.

The young of this fish are edible, but the flesh of the large fishes is extremely dry, — a fact which was discovered several years ago by some one who began to catch the black sea bass as a commercial commodity. The big bass was cut up and canned as "boneless cod," and for months people wondered what had happened to the codfish; it could not be chewed beyond a certain stage.

The black sea bass when alive is a handsome fish of the black-bass type, fin for fin. In the water he looks blue, but is, in reality, a dark mahogany tint above, lighter beneath. The eye is large, and blue. All in all, the fish is a dignified and attractive fellow.

It would seem impossible that a woman could land such a fish with rod and reel, but numbers of notable catches have been made by women, notably that of Mrs. A. W. Barrett, of Los Angeles.

The Tuna Club recognizes the game qualities of the black sea bass by offering various cups and medals

for the largest specimens. Some of the non-professional rod and twenty-one-thread-line records are as follows:

F. V. Rider, Avalon, Cal., season 1898	327	pounds
T. S. Manning, Avalon, Cal., season 1899	372	"
F. S. Schenck, Brooklyn, N. Y., season 1900	384	"
C. A. Thomas, Pomona, Cal., season 1901	384	"
H. T. Kendall, Pasadena, Cal., season 1902	419	"
Edward Llewellyn, Los Angeles, Cal., season 1903	425	"
H. L. Smith, New York, season 1904	402	"
L. G. Murphy, Converse, Ind., season 1905	436	"
C. H. Earle, Los Angeles, Cal., season 1901	372	"
C. J. Tripp, Los Angeles, Cal., season *	427	"
Lloyd B. Newell, Los Angeles, Cal., season *	380	"
R. C. Baird, San Francisco, Cal., season 1909	394	"

*Season not known.

CHAPTER IX

A FAMOUS COACH ROAD

ALL California is famous for its coaching, its coach roads, and its fine drivers. Hank Monk and the dozen or more wonderful whips who took passengers over the historic roads of the high Sierras in the days of forty-nine are familiar names to many.

The coaches are gradually being supplanted by motor cars, but on Santa Catalina coaching after the old fashion still holds. Here is found what has been described as the most remarkable stage road in the world, extending from Avalon up into the Cabrillo Mountains, across the island, and down almost its entire length to the Isthmus, and five miles beyond on the north island.

One of the owners of the island, Captain William Banning, is probably the finest amateur six-in-hand driver in the United States; to see him handle his famous team on the island roads, or anywhere in California, is something worth while. I think the one experience at Santa Catalina Island that made the most lasting impression on me was the first ride down the mountain road with Captain Banning and his private six-in-hand when he "let them out." It was as near an aeroplane as anything could be, and I think we made the run down in about eighteen minutes. To-day the coaches are owned and run by one of the

most expert professional six-in-hand drivers in California — Mr. George Greeley, of Pasadena; and a trip to Santa Catalina is not complete without a ride to the summit on the box seat with him. The drive is perfectly safe, and it is a fascinating experience which I at least never tire of. We book our order with George Greeley the night before; the next morning the six-in-hand rolls up before the Metropole, the famous whip has the reins, and our seats are ready.

We are finally seated and off. Dashing up a little street, we turn sharply round a point reaching into the sea, and a few minutes later are high above Avalon, its crescent-shaped bay standing out in strong relief, the blue Pacific stretching away in every direction. A sudden turn is made, and the road climbs a shelf on the side of Descanso Cañon that reaches the sea, parallel to Grand Cañon and separated from it by a ridge of the mountain. The horses are obliged to walk slowly to the summit — three miles, perhaps — by the winding road. Every foot of the rise gives a new and spirited vista of mountain and ocean. Halfway up, as we round a splendid horse-shoe curve, the deep cañon drops away on the right, and we can toss a stone that will roll, doubtless, one thousand feet. The trees at the bottom appear like bushes, and the sails of vessels are gulls below us. But the ocean — the Sea of Balboa — that is the fascinating object. It is seemingly directly beneath us, of the most intense blue, while far away rises the Sierra Madre, capped with snow. The coach ever follows the indications of the cañon; the road is but a shelf fifteen feet in width, cut out of its side.

Again we face the mountain, and are seemingly

about to walk into the sea, or drop into space. We are ever rising. New peaks come into view, new ranges of purple mountains silvered with flecks of fog. So on and on, until the horses step out upon the loop, a clever turn where the young lady on the box seat looks into space and apparently sees the leaders coming toward her, so sudden is the turn. This point, taken on the run in the descent, comes as a slight shock to the nerves of some people, but of course not to yours.

Higher the horses climb to the summit, where they face the sea. The entire island is seen from here — a maze and jumble of peaks and ranges, so high above the ocean that the vessels appear like chips floating on its surface. The climb of the six horses has taken possibly an hour and a half. If you are in luck, you can return in eighteen or twenty minutes, if it happens you are on the stage that does not go through, and particularly *desire* speed. It is the acme of coaching possibilities, but the regular drivers are not allowed to make the descent at more than a very moderate speed, and there is no danger.

The six horses are "let out," and the full delights of mountain coaching are realized. With foot on the heavy brake, lines well in hand, Greeley starts his team, the horses gaining speed until all six are seemingly on the dead run down the incline. The party have left their nerves on the summit, so there is nothing to mar the complete enjoyment of the rush. It is not only the scenery which impresses the passengers, but the splendid handling of the six horses. The driver has the animals absolutely in hand and his spirit is infectious. Now the horses make a sharp

turn, the leaders entirely disappearing around the bend; but so deftly is the brake used that the coach turns safely, gradually slowing up at the right moment; then on the long, straight incline the horses increase their gait, but never at so fast a pace as you imagine.

Now they turn at the head of the cañon, rising on the incline, and dash out on the loop, the leaders seemingly in air, turning so quickly that they are going one way and the coach almost another. This is but a moment; the vehicle crosses its own track and passes down the road seemingly into the blue waters. One feels like taking off his hat and cheering; it is like dropping out of the sky in a balloon, the sky and mountains seemingly moving upward and the horses headed into the sea.

There is a roar of wheels grinding over a hard road, a musical clanking of buckles and trappings, the snap of a long whip, words from the driver which the horses understand,—as clever a bit of driving as can be imagined. All six horses are running loosely in the harness and the coach is managed by the brake. No words can describe the sensation of this run, this splendid exhibit of skill that is all too short. The horses dash out to a point seemingly in space, then wheel around and start down the lower trail, sending clouds of dust over the edge of the precipice, and roll into Avalon amid the cheers of the people who have been watching the descent.

If the return ride is not taken, the coach moves on from the summit along the north face of the island, crossing some of the finest and deepest cañons, affording a succession of views of ocean and abyss. Suddenly

the road turns at the head of Middle Ranch Cañon and the horses lope down into the heart of the island. The cañon now deepens and a brook appears, running through an arbor of willows between rows of the wild rose of early spring. Flocks of plumed quail or partridge* rise here and there, or run along the road before the horses. The track winds in and out, now in a wide valley with the Cabrillo Mountains on the left and low foothills reaching up to Mounts Black Jack and Orizaba, about whose rugged summits the wild goat makes its home. The cañon narrows again, and you tool down a descent as the coach rolls into Eagle Nest Ranch beneath a clump of cottonwoods. Here one may sit in the dooryard and listen to the notes of the plumed quail, the rush of the brook after the winter rain, or the booming roar of the ocean waves that come up the long cañon from the south shore.

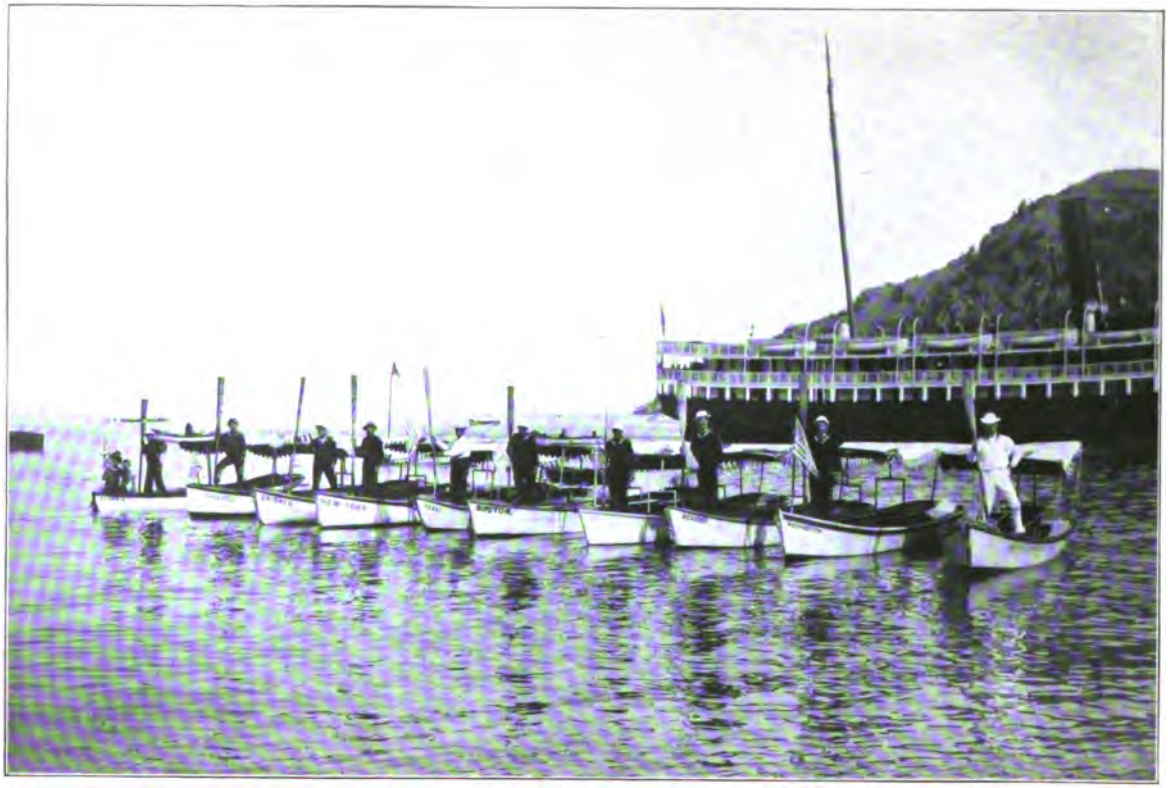
After lunch we tarry a while to listen to the tales of the goat hunters who are making their headquarters here; then we take our seats again and the coach winds down Middle Ranch Cañon to the great arm of Mt. Orizaba, which is an island divide.

Just over this divide, which can be followed to the sea — a mile away — a lofty rock with pinnacle-like top rises. It would not be suspected as a cave dwelling, but as the driver stops the team, the party ascend the slope and find beneath the rocks a most interesting example of a home of the Stone Age of California. In front of the entrance to the cave is a pile of abalone shells brought by the natives from the sea, and on the floor of the cavern have been found various implements — stone arrowheads, spearheads, drinking

*This species, *Lophortyx catalinensis, Grinnell*, is peculiar to the island.

THE COACH ROAD

Fifty miles long -- leading to Cabrillo Mountains and to West End



THE FLEET OF SMALL GLASS-BOTTOMED BOATS

Avalon Bay, Santa Catalina Island

vessels of abalone shells, and ornaments of mother-of-pearl — in fact, many articles of the chase, and of the domestic economy of the cave-dwellers.

The cavern, despite the size of the superincumbent rock, was very small, capable of affording shelter to perhaps ten. How ancient the habitation is cannot be told; but it is one of scores of town sites, mounds, kitchen-middens that mark these islands. They are of profound interest to the ethnologist.

Not far from here a trail can be taken which leads to the coast, where stands a ledge of steatite, used by an ancient mortar manufactory, the vessels being cut out by the natives in the old days. The scars can be seen on the surface where they were knocked off; and the tools of the workers were excavated in the near vicinity. This manufactory was in use within the last two hundred years; and from early Spanish history accounts are taken showing that the mortars were sent to the mainland by the canoe-load, and the Southern California Indians were supplied with cooking vessels from this island quarry.

Leaving the Stone Age cavern, the coach continues down a well-wooded cañon, crossing several ridges; then begins another dizzy climb to the summit of the range, separating the south from the north island, where a splendid spectacle of blue water, lofty cliffs, great bays, and rugged precipices is seen. The road has been so cleverly made that it gives the traveller a new coign of vantage at every turn; now reaching out into projecting mesas, crossing old Indian graveyards or camp sites; again dipping into cañons, to climb once more to lofty heights. Five miles from Eagle Nest we come to Little Harbor where two perfect

diminutive harbors face the southwest. The cliffs are extremely precipitous.

The stretch of road remaining is interesting for it plunges into the centre of the island again, ascending the hills, passing through groves of dwarf oak or by vast stretches of cactus, to climb the mountain slopes, suddenly coming to the divide, a thousand feet above the isthmus, with its crescent-shaped beach, its prospective town, Cabrillo, its groves of eucalyptus and palm. Here the driver has a fine descending road on which to entertain the lovers of fast driving if they desire it. It so happens that all the passengers wish to be thus entertained; to say that he responds is putting it mildly, and the fine team — changed at Middle Ranch — gallops down the safe road. The skill of the driver, the manner in which he "lets them out," and sends the six horses around seemingly impossible curves is a delight to the lover of coaching. Tobogganing cannot be had at Santa Catalina; but in this stage ride you have a substitute, and the ride down either end will linger long in the memory as a new and delightful experience.

The Isthmus is the site of the largest ancient Indian town on the island. It is a vast kitchen-midden, and the houses and stables are built on mounds of abalone shells. Here tons of stone implements have been dug up and taken to the British Museum and other museums of Europe and America. The coach road extends five miles up the west end to Howland's. If arranged for, one may return by launch, which affords a view of the island along its attractive coast, and enables one to see from the water the coach road over which he has passed.

During this return the yacht or launch passes along the rocky shore over the famous tuna grounds that are known to anglers the world over, finally reaching the vale of Avalon after a round trip of perhaps forty miles through a region that has a most romantic interest. In 1542 it was the home of a vigorous race, which, like the buffalo and other original inhabitants of America, has long ago been wiped out of existence.

CHAPTER X

THE SMALL GAME FISHES

THE fishing about the Channel Islands, especially San Clemente and Santa Catalina, is so essentially associated with big game fishes that the army of small ones is often lost sight of. This is a misfortune, as, if the rod is reduced in weight, or the Three-Six or a trout rod employed, rare sport may be had when one wearies of fighting large game.

There is a little fish, called the blue-eyed perch, found here, which can be seen in the tanks of the local aquarium, that is as fine a game fish as a trout; yet the little perch is not over two or three pounds in weight. He is an egg-shaped fellow, a rich brown or gray in color, with a beautiful light blue eye, so expressive that he will fascinate you as you watch him. You may have noticed the difference in the eyes of fishes as to their expression. Some, like the sardine and the sunfish, never move the eye; it is staring, black, and stolid. The barracuda, mullet, yellowtail, albacore, tuna, bonito are all staring-eyed fishes. But this little perch has the faculty of moving its eyes. They follow you as the fish moves along the tank, and this gives him a very intelligent expression.

I can wish you no better luck than to go up to White Rock, just this side of Long Point, with some old and experienced boatman, and spend a morning fishing for blue-eyed perch. You must anchor and "chum"

the fish up with abalone or crayfish bait. They are hard to lure, and you may have to jerk your bait away from the omnipresent rock bass to catch the dignified fish with a small mouth; which means, of course, a very small but very strong hook. I think I am not overstating it, when I say that unless you have the right bait you will angle in vain all day for these fishes. When they are hooked the fight is on, and the rushing, plunging, and tricks that are played, put to shame many a fish of twice their size.

Here are the blacksmith and several small perch-like fishes, which may also be taken, all deserving to be called game. The common small fish is the rock bass, which bears a close resemblance to the black bass of fresh water. There are several species; all in all, very attractive fishes, but not to be compared with the blue-eyed perch. The rock bass requires a three-ounce rod and a three-thread line, as it is a poor fighter at best, though some of the larger ones afford good sport. I have seen them weigh eight or ten pounds, and specimens I took at San Nicolás were larger that that. The vast numbers of rock bass at times are beyond belief. A good place for them is Ship Rock, off Cabrillo, Santa Catalina, where they may be taken literally by the hundred; also at San Clemente, at Howland's at Anacapa, and Santa Cruz, where they are of large size. But the pity of it is, that no one cares for the rock bass; as game he is considered a delusion and a snare.

Some days at San Clemente when the professional fishermen were in hard luck, and they had given us bait, we caught rock bass for them, and it was merely a question of baiting and hauling in. We never could

reduce the numbers of these pests; yet they are among the best of the market fishes.

Among the best rod fishes of the small fry I would name the whitefish, a long grayish fish with a blue-tipped dorsal fin down its entire length. It is not garbed in gorgeous colors, yet to my mind it is one of the most attractive of all the tribe peculiar to these waters. Why it is called "whitefish" I do not know, as certainly it is not white. Its Spanish name is "blanquillo." A few years ago it could be caught almost anywhere about any of the islands; but it evidently does not like the human invasion, and to catch it one must go to some unfrequented spot up the coast and away from Avalon. It is found in the company of the rock bass, preferring water forty or fifty feet down in rocky places on the face of some algæ-covered cliff. But the boatman, if he understands the fish, can, by liberal chumming, bring the blanquillo to the surface, or near it, and this accomplished, sport beyond criticism awaits the angler if he will but approach the game fairly.

By this I mean with a six-ounce rod not under six feet in length; better yet, a longer rod, supple, with plenty of resiliency. My old eight-ounce split bamboo black-bass rod, nine or ten feet long, with the reel strapped above the hand, has played many of them. The fish runs up to eight or ten or more pounds, and is as hard a fighter as you will ever try conclusions with. You may know the whitefish by his "knock," as he taps, knocks, or hammers on the line, probably shaking his head. Then come a series of runs and rushes that will break many a line and hook and fill the angler with delight who brings the radiant oliva-

SPORT AND SPORTSMEN AT THE CHANNEL ISLANDS

Whitefish — Gifford Pinchot and Mexican Joe watching Stewart Edward White land rock bass — Gifford Pinchot playing bonito — White, Pinchot, and Holder at Camp Pinchot, San Clemente, 1909

ROCK BASS AND "MERMAID"

A familiar illusion as reflected through a glass-bottomed boat

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ceous dolphin-shaped *Caulolatilus* to the gaff. When the fish are well on the surface, some way astern, and the current is running fast, as I have seen it at Howland's, San Clemente, the sport is fast and furious.

In 1909, at San Clemente, Captain Michaelis put Gifford Pinchot and myself over a submerged mountain one day, anchoring on top of it, about three miles above Mosquito Cañon where the blanquillo fishing was literally amazing. It was impossible to get the bait down more than twenty feet, or perhaps thirty, before we could see the blanquillos rising out of the azure sea to meet it, and, *bang!* — there is no other way to express it — a blanquillo had it.

These fishes ran up to ten and twelve pounds, and I think some of them must have been fifteen-pounders. They gave us all the sport we wanted, until each and every one of the anglers, not to speak of Mexican Joe and his understudy, and Captain Michaelis, stopped, ashamed to take any more, although not a fish was wasted. If we had been fishing with handlines we could have filled a boat with these attractive, hard-fighting, toothsome fishes.

The charm of this fishing for small fry is in the glories of the submarine view. I doubt if a more splendid garden of the sea exists anywhere (or such a plethora of fishes) as can be seen from the east end of San Clemente for four or five miles north, where the great sea mountain drops gradually into deep water. At a single glance myriads of fishes can be seen poising in the water, or on the surface, which is as smooth as a disk of steel.

One of the common fishes of the islands, but found only from Point Concepcion south, is the sheepshead.

It is always in evidence, and though a rock-lover it is to be seen in great numbers on sandy bottoms. Whenever the launch stopped and bait was thrown over, they could be seen coming from every direction. I accord this *Pimelodus* a high place among the really game fishes. It is peculiar to Southern and Lower California, and is the fish of the people. It attains a weight of twelve or fifteen pounds, and for long rushes and sustained fighting I know of none better.

The sheepshead has an interesting personality. The male and female differ very materially in appearance, which is unusual. The young is a beautiful little creature, with dainty coloring and tints of blue and scarlet, and eyes like gems. Did you ever interest yourself in the eyes of fishes? The rock bass and the Californian sculpin have rubies, emeralds, and sapphires for eyes; and so has the little sheepshead, while its motions are a symphony in graceful action. The female resembles somewhat a black bass, but is longer, and may be white, red, mottled, black, or gray. The male is a huge dome-headed fellow, with black and vermilion streaks, a big mouth, sheep-like tusks, and a vivid white lower jaw; with eyes that roam about comically — altogether a wise old fellow for a fish. In an aquarium he becomes very tame. One kept for years, and known as Pat, in the Avalon aquarium, would rise to have the keeper scratch his head, during which process he changed color. This had a wonderful effect on the average observer, who did not associate the color change with the head-scratching, and so put Pat down as a very remarkable fish that would blush when the keeper told him to. Pat was such a fighter, as are all male sheepsheads, that if another fish

was placed in the same tank it was always a duel to a finish. A large sheepshead will worry any fish almost to death. Pat was very friendly with a big green turtle in the same tank, but this was because the turtle offered no points of vantage. To see Pat follow the keeper about, rolling his little red eyes up at him, begging for food or to be scratched, was worth while.

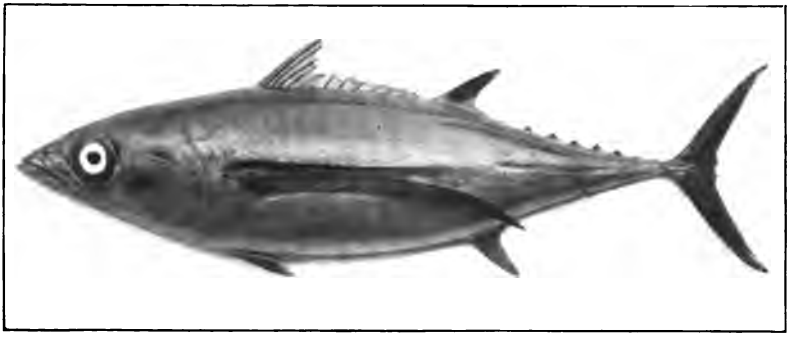
The sheepshead is essentially a bottom fish, never taken trolling; it frequents water from ten to fifty feet deep, living on crabs, shells, not capturing fishes, as the rock bass. It will bite at a fish bait, but the lures to its fancy are crayfish, abalone, and crab. From San Miguel to San Nicolás, and San Clemente to Coronado, the sheepshead is in evidence, and, like the blanquillo and several others, you will find him nowhere else in the world. Like the Torrey pine, he is indigenous to Southern California. My last word for him is that he is better as a chowder than any other way.

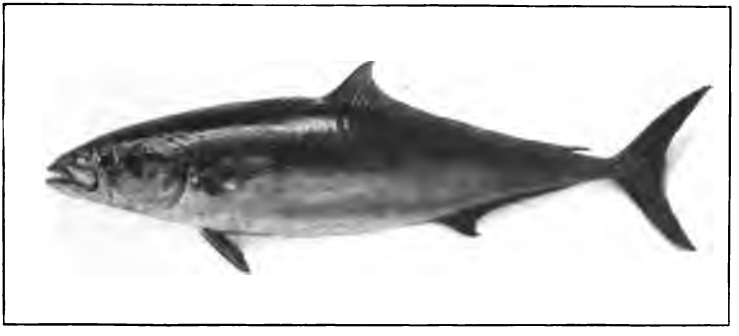
The California barracuda is taken here by thousands and is caught when fishing for yellowtail, at all the islands; but it requires a long and elastic imagination to consider it a game fish, for some barracudas of twelve pounds will come in so readily as to almost jump into the boat. They grow to weigh fifteen pounds, and once in a while one will imitate a game fish. If you must have barracuda, one of the most valuable of the summer market fishes, approach it with a very light rod — a six-ounce, seven-foot split bamboo, a three-thread line, and sardine bait. It is taken trolling or casting with Wilson spoon or bait. The Florida barracuda is a solitary fellow, a fine game

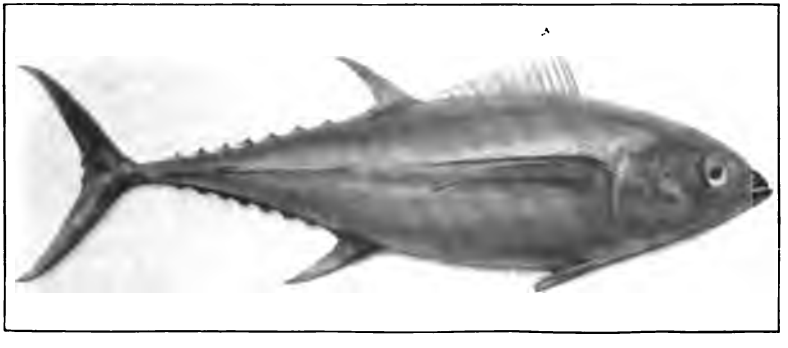
fish; but his Californian cousin runs in schools, some of which have been seen miles in extent. A red rag, or anything, is a lure for them when they are hungry.

I have referred several times to the bonito as a comrade of the long-finned tuna; but there are two bonitos. One is the skip-jack, a fat, compact, active, radiantly beautiful little fish, which one might call the humming-bird of the sea, so gorgeous are its tints, which are comparable only to the interior of the abalone (*Haliotis*) shell, pink, blue, green—all the colors of the rainbow, while its back is a vivid blue. These little fishes (and I have seen individuals which weighed twenty pounds) are brilliant fighters, and on the surface much like an Eastern bluefish; they never give up "until in the pan." If a ten-pound trout could fight as well in proportion it would never be caught on trout tackle. You may take this bonito or skip-jack, as you generally do, trolling. Your line should be number three or six, and your rod as light as possible; for the little game deserves your best consideration as a gallant fighter. You locate him by chumming, and "still-fish" if you can.

The skip-jack is taken all summer, but the oceanic bonito comes in early spring and remains but a few weeks. In the Santa Barbara Channel he is taken all summer, and is a splendid fighter. To catch any of the fishes mentioned in this chapter with a heavy rod is a mortal sin, the fish is outclassed a thousand to one, and sport is impossible. High standards of sport mean a low weight in rods. I count among the small fishes the dolphin, which is taken up to twenty pounds. You will find him with yellowtails beneath kelp patches

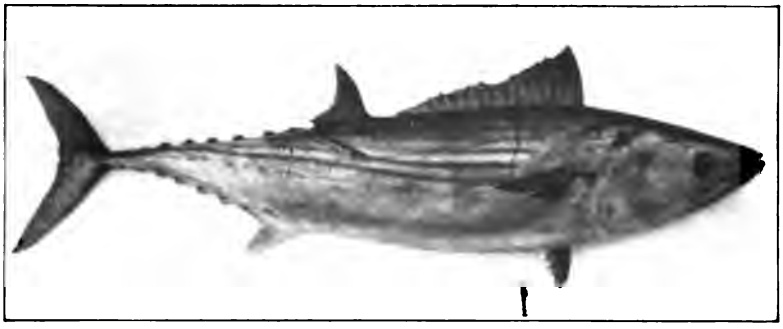


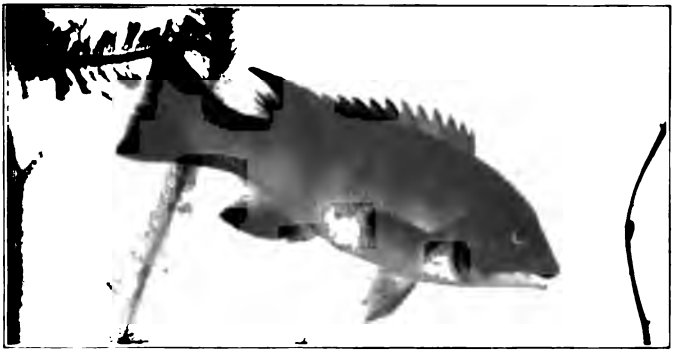


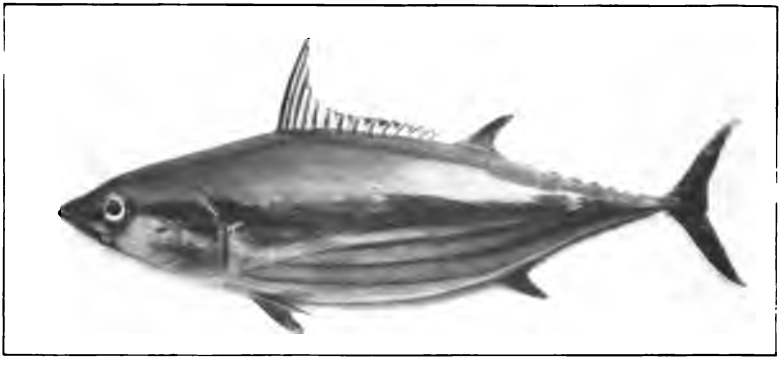


TUNAS AND YELLOWTAIL

Long-finned tuna (45 pounds) — Yellow-fin tuna (80 pounds) — Yellowtail (80 pounds)







GREAT GAME FISHES

Oceanic bonito — Sheepshead (from life) — Bonito (skipjack)

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floating offshore, and can cast and see the harlequin of the seas play to the galleries and leap as well.

It is impossible to mention all the small game fishes of this region in so limited a space. Sometimes when you troll off the mouths of cañons, a big wide fish will fly up with your line in a curious undulating movement, and after an extraordinary fight during which you guess it a yellowtail or a white sea bass, it comes in a halibut, — first cousin to the little sand dab or flounder, who flattens himself on sandy bottoms and imitates them in color; whose eye travels around the side of the head in infancy to reach the top in mature life. Amid all these fishes the scarlet Garibaldi is a shining mark, not to be caught on hook and line. Nor is the strange kelp-fish, which lives in the weed, standing among the leaves on its head, mimicking them to a remarkable extent.

There are many more small fishes of much interest here, which are not game, yet have an important bearing upon the fishing. One is the smelt, an important bait fish, which is sometimes taken with the Japanese hooks. Another, the flying-fish, is the natural food of the leaping tuna and the *bonne bouche* of the white sea bass and yellowtail. It is eighteen inches long, weighs a pound and a half, and has four winglike fins, by which it can soar an eighth of a mile. Its "flying" is soaring. The screw-like tail, with long lower lobe, is whirled about, sending the fish into the air where, with four fins set or locked, it becomes an animate aeroplane. When the inertia is exhausted the tail drops, hits the water, where it violently whirls about sending the fish into the air again. In this way it tries to escape the tuna. The

fish is peculiar to Southern California and immediate vicinity. It breeds about the islands, in Avalon Bay, where I have seen the young not bigger than grasshoppers. The baitmen trap it at night in nets set near shore.

The flier (which is not a flier, but a soarer) is a timid weakling; often, the moment it touches the net it gives up and turns over. The high flight of a school of hundreds before a ravenous horde of tunas or yellowtails is a marvellous spectacle.

A large electric ray is found here, which at times startles anglers. In the kelp is a big "frog" fish, which so mimics the weed that it is almost impossible to see it. Dr. Jordan found a new species, which he named after Avalon. In the deep cañon-like channel which lies between the islands and the mainland, some extraordinary fishes have been found by the U. S. Fish Commission.

Among the interesting things I have observed in the aquarium at Santa Catalina was the building of a nest by the kelp-fish, two of which were kept in a small tank. The larger kelp-fish, a female, was about nine inches in length; the male measured about five inches. I was attracted by the savage attacks of the male on a stranger; investigation showed that he was in nuptial colors and was devoted to the female. The offending fish was removed, giving the kelp-fishes the entire tank. All the colors of the male fish were accentuated and brilliant. What had been white was now lavender and silver; the dark angles of the zigzag barring took on darker tints and were emphasized by countless lines of lavender, yellow, blue, and gold; patches of silver, old rose, lavender, and white appeared

here and there the entire length of the fish, making it a most gorgeous creature. The long vibrating dorsal fin was erect, and the fish was unusually alert as if sensible of the importance of the situation and its responsibilities.

In the tank were several small bunches of a deep maroon seaweed four or five inches high; and, as I watched the female, she approached the weed and appeared to examine it, passing around it several times. Then I saw that her ventral surface was pressed against the weed, and its branches were being caught together by a viscid pure white cord having the diameter of a thick thread. It clung tenaciously to every branch it touched. Along the cord were large numbers of small eggs. When four or five inches of the cord had been attached, the fish would rest, the male taking her place and hovering over the eggs, which he guarded with a viciousness altogether unexpected in so small a fish. He withdrew when his mate resumed egg-laying. She frequently pushed her way through the clump of weed, but more often passed around it, the silken tenacious cord binding it together in a globular or oval mass about the size of a hen's egg. The entire nest was formed in about two hours, the fish dropping to the bottom of the tank after each effort and lying there for ten or twenty minutes. I obtained a successful photograph of this nest.

The fishes occurring here that are not game or caught on lines are practically innumerable, and some of them are of the greatest interest. By the courtesy of the Banning Company of Avalon I have made some interesting observations in the little zoölogical station, and a number of fishes found there have been pro-

nounced new species or newcomers by Dr. David Starr Jordan. During the present year I have had under observation a so-called "singing fish" (*Porichthys notatus*). In a general way this fish resembles the catfish. It is about fifteen inches in length; the head flat, the eyes on top of it and capable of being depressed out of sight when the fish is touched. The prevailing color is a deep blue; the mouth is large and armed with an array of sharp recurved teeth. There is a remarkable series of pores, and a still more remarkable series of silver spots almost identical, so far as appearances go; yet so far as known they are not phosphorescent organs. These silver spots are arranged along the sides and upon the lateral ventral surface in a curious design, and resemble the heads of pins driven into the flesh. Each is a round piece of silver-colored membrane, which shows through the skin, above which is a pair of flaps with fringes; between the flaps lie the pores.

The fishes habitually lay on the bottom of the tank, rarely moving except when fed; but occasionally they would wriggle to the surface and lie there, displaying the wonderful arrangement of pearly or silver "buttons," which have given the title of "midshipman" to the fish. The building in which the fishes were kept was sixty feet in length. While standing at the end one day I heard a loud "umph"-like sound, with heavy accent on the *m*. As I stood and listened it came again — "umph," — so loud that it could have been heard twice the distance away. I turned in the direction of the sound, and on reaching the tank of the midshipmen I saw the jaws of one were stretched outward, and again came the remarkable sound

"umph," which resembled the word many monkeys utter when grunting their displeasure or pleasure, but so loud and resonant that although I had heard various fishes utter sounds I was amazed.

Later I took one of the fishes from the tank and carried it the entire length of the building to a dissecting room, and during the passage the fish uttered the sound continually, attracting the attention of visitors. This sound is made with the air-bladder of the fish, but is not so remarkable as what might be termed its musical sounds. An acquaintance while walking on the sands of San Diego Bay, very early in the morning, heard a singular murmuring sound. It evidently proceeded from the water, and presently so increased in volume that the listener stood for some time trying to trace it. Finally, with the aid of a boat, he discovered that the sounds came up from the sea, and emanated from a school of midshipmen. To the observing fishermen alongshore, and especially at San Pedro, the music of the fishes is familiar, but it rarely happens that a landsman has the opportunity to hear it.

My informant stated that the sounds were perfectly musical — a murmuring sound, which rose and fell with a certain rhythm, and that it was a remarkable performance not alone for the loudness of the notes, but for their musical quality.

I have heard the Catalina Port Jackson shark, which lays a screw-like egg on the banks, utter a bark. The bighead, a scorpion-like fish, also utters a croaking sound; and I have heard that the big snake-like moray found here utters sounds. Another fish, the torpedo ray, found in these waters, cannot "talk" itself, but it can make the man who touches it roar, with its

electric batteries. I have been familiar merely as a layman with the fishes of many localities, including the Atlantic Coast and the Gulf of Mexico, but I believe the fishes peculiar to this region exceed them all in their many points of interest.

CHAPTER XI

THE ISLAND OF SAN CLEMENTE

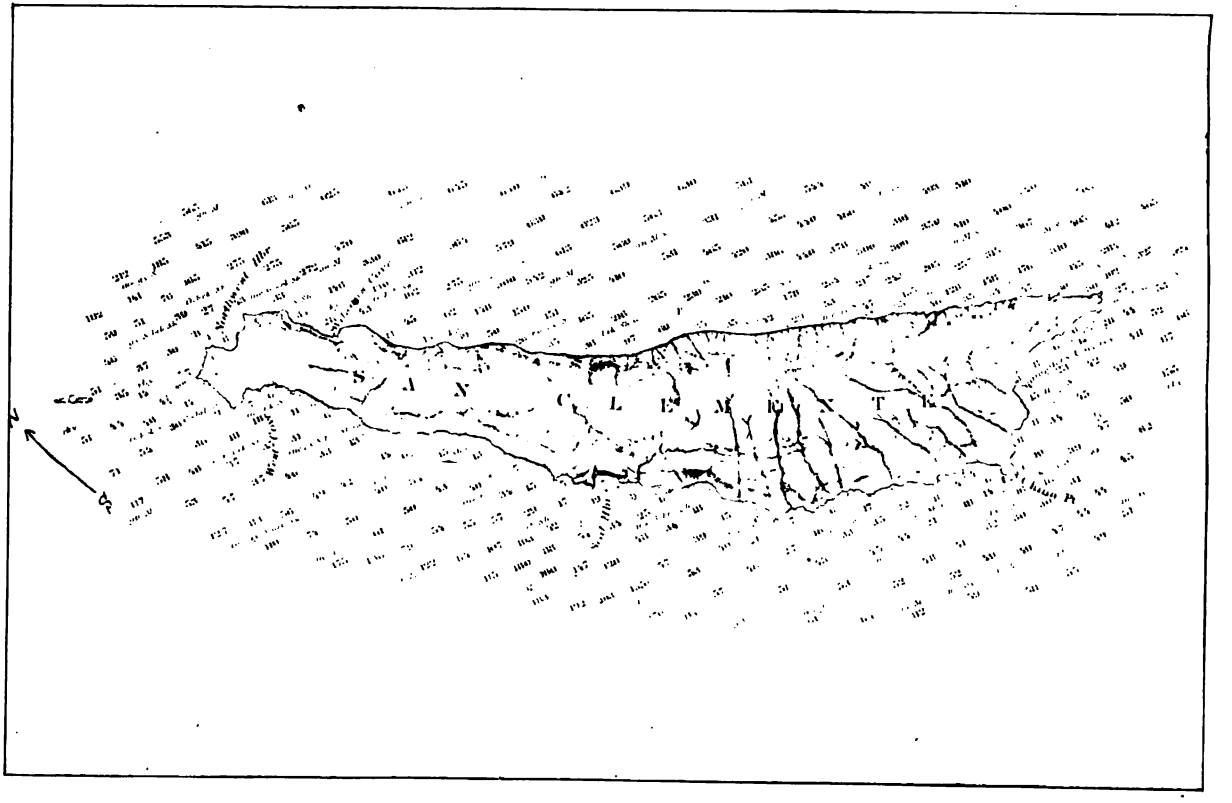
IN 1907, late in the fall, when the winds were low on the California coast, Gifford Pinchot and I were enjoying the hospitalities of Mr. Charles Howland, of Howland's, on San Clemente Island. It was a part of the courtesy of the old Spaniards to say to guests, "All that I have is yours." Mr. Howland not only said this, but he meant it, and we owned the island. Mostly we fished, but one day the horses were saddled and we rode first to Don Alonzo's, at the west end; then we turned and started for the east end on a ride that began at eight A.M. and ended at eight P.M., over a remarkable and interesting trail, covering possibly thirty-five or forty miles, in and out, by mountain and cañon. We climbed the steep hills at Howland's and were shortly on the remarkable sand-dunes, where the first view of the ancient town sites became apparent. The long billowy white sand, a menace to the island, filling its cañons, was dotted here and there with human bones and broken skulls. In one spot there were the remains of at least twenty men,— doubtless a battle-ground of past centuries.

Turning to the south, we took the long trail up the hills, reaching a mesa which spread away gradually, rising to the east and south. In the centre dark earth appeared — a town site of large size, possibly dating

back for many centuries, the black-stained earth showing clearly, and broken shells and implements cropping out every now and then. As we jogged along, in a fox-trot, Mexican fashion, pieces of mortars, broken pestles, portions of stone hammers, round stones, the parts of some game, appeared and suggested that here had been for ages a city of the San Clementeans, and that the entire mesa had been scattered with the refuse of the camp, which doubtless would well repay the investigator or collector.

San Clemente is one of the best conducted sheep ranches in the country. Its eighteen or twenty miles is laid out in various ranches. At one end, Don Alonzo, a picturesque old Spaniard, held forth. Then came Eagle Ranch, occupying the middle and western portion of the island. As we entered its confines the country became wilder, the trail narrower and more winding. Now we passed near the sea, with mountains rising to the east; then dropped into deep mysterious cañons, or through cactus; everywhere a region awful and fascinating in its desolation, calling to mind the wonderful scenery of the moon.

That San Clemente is the overflow of a great volcano is very evident; we were shortly passing great lava beds where the oozing rock had piled out into the sea. Here was the home of the choya cactus, — a terrible menace to horse and man; forests of it dotted the slopes, and off the trail I often literally waded in ice plant. Half-way down we came to a region so arid that for miles it might have been a part of the Hades of Dante, so weird and gruesome was the picture of desolation. The trail now led by the sea and out around a great lava cape known as Cape Horn.



MAP OF SAN CLEMENTE ISLAND IN SAN CLEMENTE CHANNEL

The trail was about a foot or so wide on the side or face of an almost vertical cliff of volcanic rock three or four hundred feet above the wild and breaking sea that surged in below like a gigantic witch's caldron. There was just room for the horses, as the cliff reached back a little, and each horse moved slowly along, placing his feet exactly so, while the sea roared and howled beneath. A slip or a slide, and the horse would have dropped, not rolled, two or three hundred feet onto jagged rocks swept by the wild waves.

I have been in startling places in the saddle, have even had my horse turn a somersault with me in taking a ditch, but this narrow ledge, with no chance to turn, was an extraordinary place. I fancy our genial host thought it would be a good opportunity to try out the chief forester and myself, to see if our nerves were perfectly adjusted, for he stopped his horse in the most trying spot, being just ahead of me, and leisurely began to take off his sweater, an operation which kept us swinging our legs over space; then, doubtless satisfied that we were undisturbed by the menace, or "dead game," he started on, and we shortly reached the Eagle Ranch house — on a lava point which extended into the sea.

The view of the island and coast here was desolation worse confounded: great lava-flows in every direction, the divide cut by strange cañons, the choya cactus increasing as we progressed. Suddenly we dropped down into a deep cañon where the road was a slide down its side. Taking the lariat I slid ahead, the horse following, and on reaching the bottom found myself in a deep and narrow cut, its sides filled with strange caves rising tier above tier, — literally the

bubbles of the old lava mass, one side blown out. I found one of them, perhaps one hundred fifty feet long and fifty feet deep, that had been used as a home by the ancient inhabitants of this island. A mass of shell and black earth lay in front of the cave, covered with growing cactus, and scattered about were broken implements telling the story. Surely no human being ever had a stranger home than this; a hole in a bed of conglomerate, with a lava-flow as a roof, from which tons of lava had fallen into the adjacent cañon.

From here for eight or ten miles the country grew more difficult, wilder, with more lava, but at last we came out on a mesa, beyond which through the dusk we could see a long line of beating sea, gleaming in silvery phosphorescence, and away inland a light. How the horses found the way is a problem, but we had kept up the regular Mexican fox-trot since eight in the morning, and it was now seven-thirty. A few more climbs, a few more drops, a sand-dune, a beach or two, and the cavalcade ascended a mesa and was at Chinetti's ranch. Chinetti himself came out to greet us and bid us welcome. Here we uncinched the saddles, led the horses down to the corrals, and then watched Chinetti prepare a meal for four men he had not expected.

San Clemente is a great sheep ranch, eighteen miles long as the raven flies. The Chinetti ranch includes about ten miles of the most God-forsaken country I have ever seen, and I know the Mohave Desert in various parts, — have ridden over it when the thermometer indicated 130° in the shade, when it would have taken a sixth son of a sixth son to discover shade,

—not to speak of the drear and arid portions of Arizona and Mexico.

Chinetti lived alone in a little shanty which was that rare thing for a Mexican herder, immaculate. The shanty was just large enough for a stove, a table, a bed, and some chairs. This man did not see a human being perhaps once a month. He did not leave the island but once or twice a year, and then for but a few days. He could not read or write, but he had the virtue of neatness, which covers a multitude of sins. The ground for yards about the cabin was swept as clean as if it were a floor; the bed had a covering of white, and over it hung in graceful folds an American flag made from a woman's dresses, which some one had given him. Later, when the rest of our cavalcade had turned in, in the hay at the corral, after Chinetti had cleaned up, I sat down with him and asked if he was ever lonely.

"Lonely?" repeated the vaquero. "No, indeed. Why, listen, señor."

The sea was pounding on the long sandy beach with a deep and ominous roar that had never ceased since time began.

"Sometime," he said, "he shake the house; he talk, he growl, he get mad. Then my home—" he continued, looking around, "I sweep, I cook, take care of things, I look out for the sheep all day; they come in from five or six miles every morning to drink. I watch them; take care of the stock."

"Pleasure? ah, there is lots of pleasure if you are alone; it is to have a contented mind, eh? After the work I take my dog and my colt and we go down on the beach and run races; they like it. In the after-

noon I take a ride over the range to see if the sheep are all right, then I cook my supper; and my friends, the wild foxes, come around. In? Sure. First they came only near the house and cried; then they came to the door; now they come in and take bits of meat from my hands. Fine little animals."

On the wall hung an olive bottle filled with what I supposed to be gin or gasoline, so clear and crystal-like was it. I asked him what it was.

"Why, water," he replied. "I hang him there, he's so beautiful."

A bottle of clear, pure water! Who but Chinetti would have thought of using it as a picture? A bottle of water! I began to see that my companion was a poet.

"And what do you do after dinner?" I asked.

"Oh," replied Chinetti, "I go out sometime and look at the stars and listen to the wind and sea. You hear him?"

We both listened, and the strange weird roar was like the deep notes of an organ, the requiem of the sea; it shook the very house.

"You like the sea, eh?"

"Yes," I repeated. "I like it, and I see how you make company out of it."

"It not always good," laughed Chinetti.

Then he told me how he was nearly wrecked here, and finally blown away to San Diego. And I told him of a cyclone I hammered out once in a full-rigged ship when we expected to have to cut away the masts.

"Then," said Chinetti, "I play my guitar to the foxes, yes, and then, before I turn in, I read my books. Yes, look at the pictures and laugh. It's a good thing to laugh, señor."

I agreed with Chinetti on this; also, that there is music and companionship in the surf, and that a bottle of water makes a very good picture. Then Chinetti took out his library, and we pulled up to the table. There were two large volumes; one was the bound history of one "Willie Westinghouse Smith"; the other, the life and adventures of a colored gentleman who was continually applying for a position with the remark, "I seen yo' ad in the paper." There were pictures which had appeared in lurid colors in some Eastern Sunday paper, and which constituted the delight and perennial joy of Chinetti, who began to laugh at the very sight of the book, roared as I opened it, and laughed himself almost into hysterics as I read the lines.

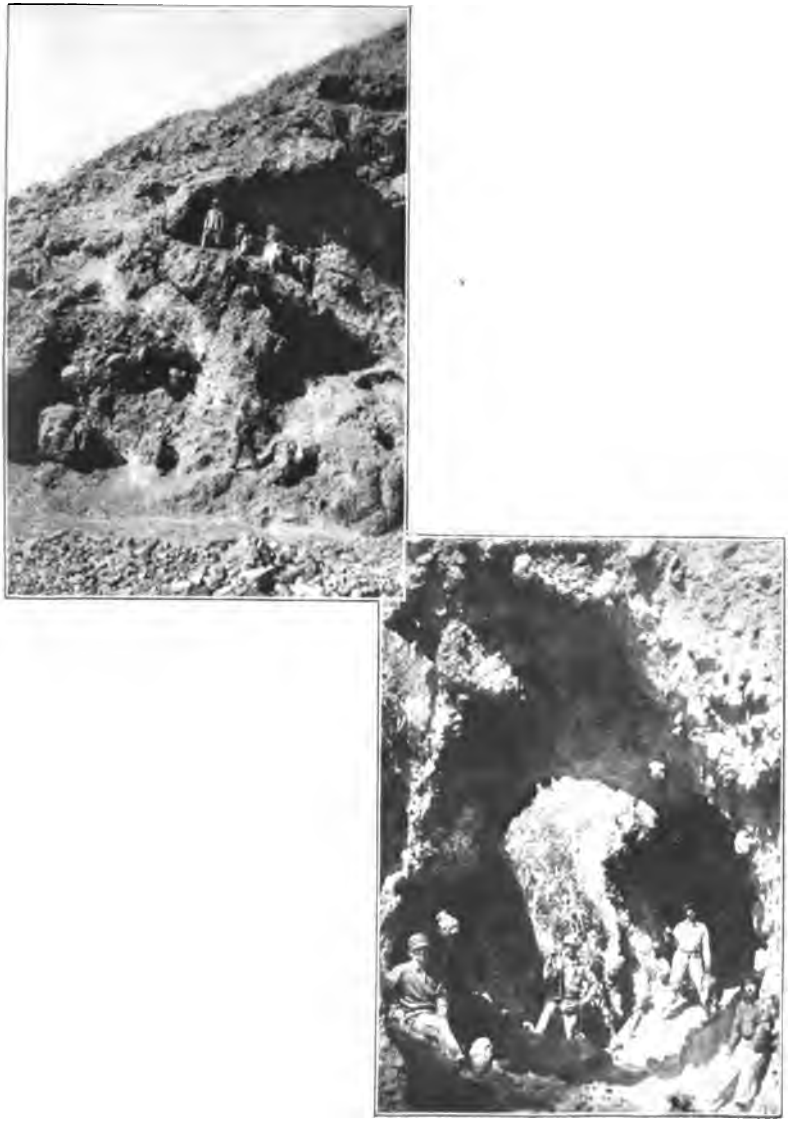
Then I began to laugh at Chinetti's pleasure, and forgot that I had been nearly twelve hours in the saddle; forgot that I was away out on the end of a lava bed, nearly a hundred miles from anywhere; forgot that my friends were down in the alfalfa, and laughed with Chinetti at the laughter of the dark person in the book. At times Chinetti would look behind him at the open door and jerk his thumb at it, and say "Fellers laugh too."

This free public library of San Clemente is not much to look at, but I doubt if any collection in the country affords more delight to its patrons than does the two-or-three-volume library of Chinetti. Previous to this I confess I never could exactly see the value of such works of art, but I am a convert. They make joyous the life of a man cast in one of the most desolate and barren of regions. My compliments, and apologies, to the authors of "Willie Westinghouse Smith" and his colored colleague.

At last Chinetti laughed out. All night I heard the cry of his foxes up the cañon, and I could fancy, as he said, they were laughing too. In the morning our host took us up a cañon, which we named after Chinetti (the raven), a crack in the lava worth going to see, as a marvellous and weird freak of nature. I believe at no point is it over eight or ten feet wide, as far as we went, yet so deep that the sky above, when we could see it, appeared like a blue river. It wound about reaching upward, and everywhere its walls were perforated with weird caves of large size, drooping from which were masses of the snake cactus (*Cereus Emoryi*), which fell down in clusters like gigantic green serpents. One could well imagine that some Medusa lay sleeping in the cave, with sea-green hair unfolding and writhing over the edge. So wholly unnatural was this cave, that one could not shake off the impression that it was a part of some weird scene in a play.

When we came out into the sunlight again Chinetti was loading our saddles on the pack horses, and later took them down to the landing, a lava-flow that reached out into the sea. Mexican Joe, one of the best surfmen in California, was lying off with the launch, and came in, riding the surf with his skiff, to take us off. For an interval of ten minutes the landing was safe, and the men were rushed down, and with flying leaps made for the boat. As I reached her I saw a big roller coming in followed by others, and when we boarded the launch our landing had disappeared from sight under a smoking mass of foam, the big seas making a clear breach over it.

From here we followed the island shore back to



SCENES ON SAN CLEMENTE ISLAND

Going up Cave Cañon — Cactus Cañon

SNAKE CACTUS CAÑON, SAN CLEMENTE ISLAND

The snake cactus hangs forty or fifty feet, looks exactly like snakes, a vivid green in color

Howland's, and in half an hour had passed the southeast end with its guardian eagles, then entered the lee of the north coast,—for miles a wonderland of caves and high precipices, possibly the last vestige of the rim of a great volcano, the eastern rim being under the ocean to the east.

The water was smooth as a lake, blue as turquoise, and often deep to the very shore. The lava cliffs reached upward, sometimes to nineteen hundred feet, and were cut by cañons and gaping uncanny caves, in many of which lived wild goats and sheep. All the sheep live in the caves, and it was interesting to see them pouring out of these weird, ragged-edge blowholes. At one point near the east end seven great caves appeared at the water's edge, and everywhere high up in the mountains vast holes and caves were seen, like gaping wounds, surrounded by slopes of cactus, golden wild oats, grasses, and clovers, making the ascent to them more or less uncertain. One of these caves had been used as a home by the ancients, for from the sea the gleaming heaps of abalones could be seen, telling of the industry of the cave men of San Clemente.

Slowly we ran up the coast, passing in review a wonderful panorama of caves, cañons, and sloping mesas. As we sailed on, the fog came from the west over the summit a thousand feet above us. As it reached the edge of the island mountain it stopped, and poured down, a cascade of silver, as the sun fell upon it, changing, scintillating, as if the silver of all the mines in the world had been melted and, like lava in a stream a mile or more wide, was rolling down into the azure sea. Beyond here, where there was no fog,

the wind came rolling down the steep mountain-side with a roar and wild acclaim. It might have been shot out of a gun, as it struck the water from one hundred to two hundred feet from the shore, and literally tossed it up into the air forty or more feet, an extraordinary spectacle, forming gigantic "woollies" which we could see far up the coast.

When we entered them, there was a hissing and roaring of waters; they almost stopped the progress of the launches. We drew tarpaulins about us, to keep the fine steam-like water, blown from the surface, out of our faces, and turned inshore to escape the wind that seemed to be sucked down the mountain side with marvellous and menacing velocity.

As we ran to the north hugging the shore, plunging through the "woollies," the hills became lower, the wind less, then a little point was passed around which was the whitewashed hacienda of Mr. Howland. We had completely encircled the island by sea and land, and were again housed near where the sand-dunes had their lair. The only suspicion of a volcano was the north sentinel of the island, a huge conical rock, a hollow chimney of the ancient volcano that may have made San Clemente.

Don Alonzo was at the ranch house to greet us, and a dozen shearers and vaqueros came to supper. I thought of Chinetti looking at his water-bottle picture, and always laughing, while the sea pounded eternally along the lone, mysterious shore like some strange animal. If the average human being were sentenced to live on this point for life, it would form a story whose pathos would be boundless; but as it is, it is home to Chinetti. He refuses to leave it, and when

the work is done, he looks at his crystal bottle with the glance of a connoisseur, regales himself with his library, and laughs and laughs and laughs.

It can be said that the Government has in this island the finest sea-angling in the world, though in 1909 it fell far below the average of Santa Catalina, which, but eighteen or twenty miles away, for some reason had the best. Its forty or more miles of coast is mainly of rock covered with an assortment of seaweed, the abode of countless shells and mollusks, hence the haunt of vast numbers of fishes. The water about it is deep, very few shallows being found, and the chief anchorage for anglers is on the slope of the island mountain as it drops away into deep water, or upon some minor peak which branches out from it. This ensures a vast concourse of bottom-feeding fishes; and as the island is well offshore, in the line of fish migration, it abounds in roaming fishes, which come in large numbers and spend the summer on the feeding and spawning ground of their choice.

Nothing is more uncertain than fishing. The accounts in this volume are as I have found it nearly every year; that is, the normal condition. Some ten years ago the yellowtail fishing at Santa Catalina was very poor; the fishes appeared to be sick. In 1909 in September there were no yellowtails at San Clemente, where the year previous we had found them in such countless numbers that the very catching became hard work. A party of five — Gifford Pinchot, Assistant Attorney-General (now Judge) Woodruff, Senator Flint, Dr. Howe, of Boston, and myself — would start out every morning at six or seven from the big yacht we had anchored at Smugglers' Cove,

and almost the very moment we reached the east end each would hook a yellowtail of from twenty-five to thirty pounds, more or less. And so the game would go on all day, the fish playing on the light rods from twenty minutes to an hour, according to size.

But in 1909 the reverse held. The yellowtails were not there, or small ones were the rule if they were caught. This does not mean that there was no fishing. I fancy the Eastern angler would think our poorest days a "piscatorial bonanza," but it happened that all the tuna were caught this year at Santa Catalina and the yellowtail as well. This was for September. In June, July, and August, yellowtails were caught at San Clemente in abundance.

The game fishes of the region are the yellowtail, sixty pounds; the bonito, twenty pounds; white sea bass, sixty pounds; black sea bass, three hundred and thirty-six pounds; tuna, two hundred and fifty pounds; long-finned tuna, sixty pounds; yellow-finned tuna, sixty pounds; oceanic bonito, twenty pounds; sheepshead, twelve pounds; swordfish, three hundred and fifty pounds;* and a variety of rock bass, perch, and others, making up a really extraordinary collection of big fishes to be taken with the rod.

It might be thought that anglers would waste many fishes where there is such a plethora of game; but the professional fishermen take the catch, and are extremely glad to get it. They ice it and ship it to Los Angeles, and in payment for it they provide anglers with sardines and other fishes for bait.

There is a small camp at Mosquito Harbor, where

*These are the maximum rod record catches from the records of the Tuna Club.

DON LORENZO, CHARLES HOWLAND, AND BERT VELAZQUEZ, A FAMOUS ROUGH RIDER

WILD SCENERY ON SAN CLEMENTE ISLAND

The cañon of Camp Pinchot — Point Diablo Trail — A Goat-hunter's trail

Alec O'Leary once lived; and the Tuna Club proposes to maintain one here, where anglers can make their headquarters and obtain bait. It is well for anglers not to depend upon this, but to go over in good-sized launches with experienced men, as Captain George Cornell, Mexican Joe, George Michaelis, Captain Clover, Captain Al Shade, and others. A tent can be taken for camping out, which is more comfortable than to live aboard a small boat.

The best fishing has always been found on the north or the leeward side. The large game fishes of this region avoid the surf and the sandy beaches; this explains the fact that there is practically no big game fishing on the mainland beaches of Southern California; that is, inshore, except at Redondo, where a deep channel cuts in, and off San Pedro Point and Coronado. The fishes affect deep water, but near shore, and the islands seem to afford the very conditions they like. There is excellent fishing at Howland's for yellowtail; but the kelp is a factor to be considered, as a big yellowtail will at once make for it, wind in and out, and break the slender line. At this place yellowtail can usually be taken in large numbers, also the black sea bass fishing is good even near and from the beach. Next to this comes Mosquito Harbor, and from there down and around the extreme east end, off which, in normal years, the sport is beyond criticism for size and game qualities of fish.

Besides the large fishes, every nook and corner abounds in sheepshead, — a hard-fighting fish which ranges up to fifteen pounds; the rock bass up to five is a very good imitation of the black bass in shape and general appearance, but it gives up sooner.

Here some of the best known sea-anglers in the world have fished. The record for yellowtail, by Mr. Simpson of England — sixty pounds — was made here, and it is the impression that the fishes are bigger here; but this is not always the case, as we have seen.

Next to San Nicolás, San Clemente is the most distant island from the mainland, but being nineteen hundred and sixty-four feet high (Mount Cortez), it stands out a conspicuous object in clear weather to the yachtsman. From Point Loma near San Diego the run to the southeast end (Cape Pinchot) is sixty miles, and the course would be two hundred and eighty degrees true west, one-half south mag. from Point Loma. From Santa Catalina, the nearest outfitting point, the run is about thirty miles to the east end; twenty to Howland's. The channel is rough for small boats; to make it in comfort the start should be made from Avalon at four in the morning, thus avoiding the strong midday and afternoon wind which sweeps down the wide open San Clemente Channel from the open sea.

Mr. Charles Howland has a long lease upon San Clemente, and uses it as a sheep ranch. He is developing the water, damming up the cañons at great expense, planting it with spineless cactus and various trees, and improving the charge generally. Visitors must obtain permission from Mr. Howland before landing. As to harbors, the island has none in a general sense. At Howland's, about four miles from the northwest end, there is good summer anchorage and perfect lee. There is also fair protection at Don Lorenzo's, on the north side of the west end, from a south wind, but a heavy swell makes around the point. This end of the

island is a kelp forest of remarkable density, which makes out to a depth of sixty feet in almost every direction, and the bay, Ferrelo's Bay, is often filled with it. This bay opens to the north and should be avoided in heavy northwesterly weather.

Smugglers' Cove near Cape Paez, which I named after one of the officers of Cabrillo, is the port of Chinetti's station or ranch, and lies under Mount Cortez (Pyramid Head). For about two and a half miles west on the south shore a long sandy beach extends from the east end. Midway there is a sunken rock over which the sea shows. Chinetti's house is seen, up from the beach, and the landing anchorage lies about a mile north — close under the cliffs in water forty or fifty feet deep. The landing is made on the point of rocks, but a lookout should be kept for occasional seas which sweep in and cover it.

At Christmas, in 1907, Mr. Pinchot gave Chinetti a fine American flag to take the place of the pathetic one he had made of pieces of dresses; and in 1908, when the yacht rounded to, up went the big flag, and it will doubtless greet all comers. Also from Washington at this time came the latest editions of those remarkable books which constitute the only library on the island.

San Clemente has had a most interesting geological history. Especially at this point a series of six or eight or more remarkable terraces will be seen — ancient beach lines, as clear and distinct as possible, marking the great throbs which pushed the island upward millions of years ago. What a slight elevation or submergence will do is illustrated by the fact that if the coast dropped one hundred feet, San Pedro

hill would become an island; and if the coast should be elevated one hundred and seventy-five feet — which has been done many times — there would be added to this group Cortez, Tanner, and Osborne Banks as islands.

San Clemente, geologically speaking, is millions of years old, and appeared, or was elevated, near the close of the Post Miocene erosion. San Nicolás doubtless came up at the same time, — the result of some disturbance of the coast, faulting and folding all through this region, during which the older islands of Santa Catalina were doubtless elevated still higher. In a word, this time doubtless saw the birth of San Clemente, and as Dana states that the Cenozoic time dates back three million years, that may be considered the age of this fine fishing-ground, which has had many sinkings and risings since, producing the strange and wonderful old beach terraces on the southern end, and the great mass of columns shot out at the east end near Cape Pinchot.

Following the birth of San Clemente came the Pliocene depression, when the sea stood for ages fifteen hundred feet lower than at present, according to Smith, — a fact shown by the highest terraces of the wonderful terrace series seen near Chinetti's. At this time the upper surface of San Clemente, which I rode over on horseback in 1908, was just above the surface. As to the reason for the formation of San Clemente, how it happened to become an island, Dr. Smith states that doubtless all the islands were the result of "crusted deformation," San Clemente being a "faulted block." Dr. Lawson describes San Clemente as a "tilted, orographic block" — hard names for an

island that cannot talk back. The rocks of the island are given as mainly volcanic. Great clots of lava are seen on the east reaching out into the sea; and on the extreme east end there is a splendid burst of basaltic columns overlooking what, under normal conditions, is the finest yellowtail fishing in any sea.

The geologist will find this end of the island a marvellous study; one should not leave it without climbing some of the east end cañons, studying the old sea beaches (terraces), which rise one above the other here, riding or walking down the island on the summit, making a trip around the island to see the strange geological features which express themselves as caves, cañons, and rifts. The island is seemingly almost without verdure, yet is fascinating in its aridity; this in summer. After a heavy winter rain the volcanic rocks, the barren places, are often covered with green; wild flowers spring up, and San Clemente is in places a garden of the sea.

At this time a marvellous sight is to be seen on the northeast coast — the precipitous side of the island. Huge cliffs rise everywhere, while on the south coast the land in many cases slopes away from the sea and there are pseudo beaches. But on the northeast coast great precipices breast the ocean, and down through the Miocene and Pliocene rocks the rains of millions of years have cut marvellous cañons, some so narrow that they appear like cracks or knife-cuts. Some, as at Mosquito, reach the sea, and little beaches form, but this is rare; most of these stupendous gashes have not yet been cut down to the surface, and between them and the water are steep cliffs. Now when a torrential rain comes, these halls of silence become

filled, gorged with water that roars down with wild acclaim, and reaching the end, forty, fifty, one or five hundred feet from the sea, leap into it, a mass of silvery foam, the entire island at this point, from near Mosquito Harbor east, displaying countless falls and cascades — at once an extraordinary and beautiful spectacle, seen only by the few fishermen caught here during the gale.

It will repay the visitor to this island to examine the cañons from the east end up the coast, as they are extraordinary manifestations of the power of water. One especially, a mile or so west or north of Mosquito Harbor, is one of the most picturesque chasms to be seen anywhere. A great pinnacle rises in it like the peak of Pelée.

In wandering over San Clemente, or sailing about it, one feature is always dominant, namely, the caves, which not only are seen along the coast line, but beneath it, and at every possible elevation up its cañon-riven sides. Much of the island at the east end is of conglomerate. This breaks up under the effect of wind and water, and the result has been to give the island literally thousands of caves of varied kinds, sizes, and shapes.

At the extreme northwest end there is a cave or chimney, pointed directly upward, said to be a crater, forty feet deep; directly opposite, on the flat rocky ledge, there is a submarine cave into which the sea groans and hisses, then explodes with a terrifying noise. I have stood by this cave when the concussion fairly shook the entire ledge.

From here the shore is low, and the sand-dunes are a conspicuous feature. As we sail to the south the

shores become more and more abrupt as the island rises gradually from the west or north, flat-topped to some extent. Wherever rocks appear on the coast the sea has eaten into them; in a storm the sea rolls in with a roar, to be sent back in a great hissing silvery spout, as if the land resented the insidious and brutal attack. About midway down the south side the cliffs appear; and here is a vast cave eaten out of the rock, so large indeed that it forms a little harbor. As we sailed by in 1909, some Chinese abalone-hunters had made their headquarters near it.

When there is a storm this place becomes a veritable maelstrom, and the water is flung a great distance into the air. From here on to China Point there are countless caves, large and small, from which the sea bursts and foams; but it is not until we round Cape Pinchot, at the east end, that the region of caves is found. Here is a series of six or seven very large caverns, just at the water's edge and running in some forty or fifty feet, literally cut out by the sea. One of these is a two-storied cave; that is, the cave has a cellar down through which one can pass and reach the ocean.

In one of these caves I found in 1909 a wrecked boat. Near it was a cave just at the surface into which the sea would drive, sending the compressed air out with such force that the impact was almost sufficient to knock a man down, sending the water in a volume of foam many feet high. The cliffs rise precipitously to a great height and are literally filled with caves of all kinds and sizes, visible far offshore.

One large cave, which must have been fifty feet across the opening, stood out half-way up the moun-

tain. It seemed easy of access, but when I approached it after a tremendous climb, it was still out of reach and stood a vast opening in the face of the mountain.

One afternoon, while lying off a picturesque cañon near the "spring" on the east end, one of the party began to fire at a mark, when out from a cave halfway up the mountain began to stream sheep in pairs, single, and in companies of a dozen or more, winding their way up the great, seemingly impassable slope, crossed and recrossed with trails. How many sheep came from this one cave I do not know, but I should venture to say several hundred. There are from ten to fifteen thousand sheep on the island, and they have seized upon these caves as homes. In riding down the centre of the island I saw lambs lying in little caves of just their size, and some caves held two. About eight miles from the east end of the island there is a wild and rocky cañon that seems to be artificially terraced with caves, so numerous are they. Many could have been reached; others were isolated; and far up toward the summit, where I could see eagles flying, there were still caves, — the homes of the wild goats of the upper crags. Well might this great rift be named the Cañon of the Caves.

In some of these caves I found evidence of human occupation; mounds of black soil, heaps of abalone shells, broken implements, mortars and pestles, beads, arrow or spear heads, telling of a human occupation in the long ago, as San Clemente has been inhabited beyond doubt for thousands of years.

As the island is the top of a submerged mountain, a peak thrust up from the ocean's bed, these caves

THE DOUBLE CAVE

San Clemente Island

Great Cave of Valdez, Santa Cruz Island

Great Cave of San Clemente Island

THE ISLAND CAVES

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doubtless extend far down its slopes and afford homes for countless fishes, shell-fishes, and other denizens of the sea.

No botanist has gone over the ground of the islands so conscientiously as Mrs. Blanche Trask of Avalon, who has given a most interesting account* of many plants which she found on San Clemente. She found a new rattleweed (*Astragalus robeartsii*, Eastwood), which she has named in honor of Johnny Robearts, who lived on San Clemente twenty years, and knew it intelligently and well; and in Chalk Cliff Cañon a tree daisy, *Encelia California*. Out on the points she found *Euphorbia misera;* but the rarest find was a species of *Lycium richii*. For many years one of these plants, a veritable giant, grew on the Avalon arroyo, and was known as the "banyan"; by any other name it was just as rare and interesting. Thousands of people visited it, and it was famous as the only plant of the kind in the United States. It was a sort of shrine for botanists, — an extraordinary tree or bush related to the currant family, a maze of branches, — a botanical wonder that has gone the way of the aborigines whose children may have played in its deep interstices. I saw it first in 1886, and it was doubtless very old then. Mrs. Trask's discovery of one more specimen at San Clemente, Northwest Harbor, is an event, and it is to be hoped that it will be preserved from the fate of the Avalon specimen.

Mrs. Trask reports from here a new species of Baccharis. Here, too, she found Trask's lotus, *L. Traskiæ*, named for her, and many more.

*In the Bulletin of the Southern California Academy of Sciences, May and June, 1904.

At first glimpse San Clemente impresses many as being absolutely barren, and as an island whose plant life must have a fierce struggle for existence; yet an extraordinary list of plants has been made here by botanists during the past quarter of a century, and doubtless it is far from complete. I visited the island first in 1887. In the party was a botanist, and the list of plants he extracted from the seemingly barren islands astonished me, though I believe I gave him an equal shock in the wonderful marine forms I collected at low tide along the rocks and in the little natural aquariums. The botany of the islands has been worked up and studied by many botanists. I met Dr. Sargeant of Boston on the islands years ago, when Mrs. Wheeler was showing him some botanical treasures. Dr. Hess, Dr. Brandegee, Dr. Holmes, Professor Ellis, Mrs. Wheeler, Mrs. Blanche Trask, Mr. Harry Polley, and Mr. Lyon, of the Forestry Service, have made careful studies on the islands, and their reports are found in various publications. One of the most interesting papers is that of Mrs. Trask previously referred to. In wandering over San Clemente you will come upon saxifrage; wild buckwheat; the groundsel (*Senecio lyoni*); the island Islay (*Laurocerasus lyoni*); the island Ceanothus, flowering from January to April; the horehound (*Marubium vulgare*); lupine (*L. perennis*). Mustard, or *Brassica nigra*, adds glory to some of the barren valleys. The turquoise flower (*Gilia nevinii*); *Eriophyllum nevinii*, *Aphanisma*, and many more, all chronicled by Mrs. Trask in her list referred to.

Lyon found the blue-berried elder (*Sambucus glauca*) here in 1884, the sumach (*Rhus*), and the pear-leaved

buckthorn (*Rhamnus pirifolia*). The following I take from Mrs. Trask's list: poppy (*Eschscholtzia ramosa*); turquoise daisy (*Gilia nevinii*); lava daisy (*Malcothrix foliosa*); tree poppy (*Dendromecon stylophyllum*); four o'clock (*Mirabilis californica*); *Eriophyllum nevinii; Aphanisma blitoides; Rhus integrifolia; Cnicus occidentalis; Franseria; Abronia*, two species; *Atriplex breweri; Plantago insularis; Phacelia, Salicornia, Hemizonia*, and many others, tributes to Mrs. Trask's keen observation and love of nature. Had one the enthusiasm of Dr. Hess he could write a book on the fungi of this and other islands alone, collected from rocks, trees, and shrubs by him and Mrs. Trask. Professor and Mrs. C. F. Baker have discovered a number of new species of fungi on Santa Catalina.

CHAPTER XII

THE BIRDS OF THE ISLANDS

SAN CLEMENTE does not offer an especially attractive place for birds, yet there are many which live there the year around, and many more are visitants during the great annual migrations north and south.

The only water on the island is that found at the various windmills, in the dams of the cañons, in various seeping springs, and in the natural water tanks. About these places the most birds are found, that is, the land birds; the island has, of course, a large number of sea birds which habitually live there. The verdure of the island is very limited. The choya cactus, the snake cactus, and the ordinary tuna abound, and on the ridges will often be seen lines of ironwoods (*Lyonothamnus*), which at a distance have the appearance of weird animals, — some like snakes, others like huge insects, taking many and interesting shapes, influenced by the wind and island conditions. In the cañons are found many shrubs and trees, the wild cherry (*Prunus*), with shining glossy leaves, being particularly noticeable. These and others afford protection to the various birds which doubtless have carried seeds here. The eucalyptus and other trees have been planted, and trees of every kind would grow if water could be developed. The great mesas of the middle island region are planted with grain

every year, and a good hay supply is obtained. Most of the slopes in summer are covered with yellow wild oats and clover (*Trifolium*), which in winter are, of course, green, giving parts of the island an attractive appearance.

The commonest bird of the island is the bald eagle, which appears to thrive and is found everywhere. It occasionally flies out to sea after dead fish, pouncing down upon them, and snatching at them with its powerful claws.

This bird (*Haliætus leucocephalus*) could be seen at any time near our camp, one or two roosting near us every day at our cañon or beach, perched on the rocks within easy gunshot. A large female, injured in some way, was brought into camp after an exciting chase and later sent to the zoölogical garden at Los Angeles.

On the upper island I saw the valley partridge, or California quail. Some years large numbers are seen, the young birds being observed in May and June. According to Grinnell, they were introduced by Gallagher some years ago, but it would not be difficult for quail to reach the island on a clear hot day, when all the islands appear to be almost within speaking distance.

I frequently saw the mourning dove at Chinetti's and at Howland's, in the *Malva rosa*, and near the tanks. On the pillars of rocks below our camp at Mosquito were numbers of nests of the American osprey (*Pandion*), and on a trip around the island scores of their rough nests were observed. One very large nest I found on the summit of a rock on the east end, which I reached with some difficulty. It weighed possibly one hundred pounds, and was made

up of sticks, collected from the beach, kelp weed, old rope, even a tin can and parts of a wrecked boat. Professor Joseph Grinnell found a nest that had a sort of lid of grass, intended to protect the eggs when the bird left them. There were usually three eggs in a nest, and the nesting time appears to be from the twenty-ninth of March on.

Mosquito Cañon, where we had our mess tent and where there was water, was a favorite place for birds, and the sweet notes of various species, with the mournful note of the dove upon the fig trees, could be heard every morning. Some of the notes of birds unknown to me were very attractive and melodious. A common and neighborly fellow about the camp was the belted kingfisher, whose harsh laughter or chatter was often heard. It took its station on the rocky points overhanging the ocean, into which it made many dashes after prey.

The white-throated swift was often seen, and I think it nested in our cañon. At Catalina, on the west of Grand Cañon, I have watched this attractive bird for hours, as it flew along the summit of the divide.

The commonest birds on the island, strange to say, were humming-birds — Costa's and Allen's, and I caught a glimpse of a third variety with a long tail. Allen's humming-birds were constantly in evidence on the cactus patches along Mosquito Cañon, just above the beach. Professor Grinnell found nests in March. They were made mostly of sheep's wool, which is commonly seen caught on the brush.

These little gems, gleaming and scintillating among the green leaves of the cactus, are very ornamental, and I found them very tame. The tameness of hum-

ming-birds is remarkable. I once kept two young birds, which had fallen from the nest, in my home at Pasadena. They shortly became so fearless that they followed us about the house and awoke us every morning by hovering over our faces demanding to be fed. Professor Grinnell found nests and young of the Costa's and Allen's species at San Clemente May thirty-first and June third.

I saw a flycatcher near our camp which I believe is the one, *Empidonax insulicola*, described here by H. P. Oberholser, a new species. They were constantly flitting along the stone wall of our cañon. If I sat perfectly still they would come within a few feet of me in short flights from one point to another. I am sure this was mere curiosity — it was in September, and therefore the birds would hardly have been nesting and jealous of my intrusion.

The house finch is the common bird of Southern California, and its notes are delightful in the early morning. It was very common at both our cañons, and I saw it everywhere on the island, so that it is well established. All day it could be seen about the camp or along the rocks among the cacti which topped them. Al Shade, a boatman, had a few fig trees at his camp at Mosquito planted, I fancy, by O'Leary, and one at a little spring on the south side; and these trees were continually filled with finches and mocking-birds. It was a constant battle for figs between man and birds. I found remains of the big finch nests in many places in the cacti. Professor Grinnell states that the island finches are larger and more brightly colored than those of the mainland. No bird adds so much to human pleasure here as the finch, a thoroughly

domesticated little creature, as tame as the English sparrow of the East, which is said to be travelling slowly south by train, — a method of travel quite characteristic of this bird. Grinnell records the Western wood pewee, the Western savanna sparrow at this island, also the intermediate sparrow.

On the upper mesas when I rode over the island I saw numbers of streaked horned larks, near great patches of *mesembryanthemum* or ice plant; and I at times heard the note of the Western meadow lark and saw them on the summit of the range over Mosquito, on the mesa and near a great cactus patch. This is a most attractive bird; its rolling ventriloquistic note in one of the delightful features of life in California.

Every night we saw ravens coming in from the southeast, apparently from the ocean. Where they could have been I do not know, but there were so many, and the points so divergent, that it seemed possible that they went on a day trip to the mainland, forty or fifty miles to the southeast. To this opinion, however, I would not commit myself. I saw them in little valleys on the southwest side of the island, and one day in 1907, Howland, Pinchot, Potter, and I rode into a little valley where there was a convention of ravens, to the number of several hundred, sitting around. They appeared tame, and rose with reluctance as we approached, bound to the southeast over the long tiresome mountain trails. At Mosquito they were always in evidence, sitting about or flying back and forth along the mountains. A pastime of these birds was to chase the bald eagles, which they often did most effectively until the entire posse would be seen high in air. The raven is a beautiful bird, glossy, almost

iridescent. It builds its nest in even more inaccessible crevices than does the eagle, the nest being made up of sticks and wool.

The number of small birds about our camp and along the ledges of rock facing it was interesting. The San Clemente song sparrow was chiefly in evidence, and its captivating song and call were often heard. Here, too, in the convolvulus-entwined chaparral that topped the sides of the cañon, were the golden-crowned sparrow, the Western chipping sparrow, which Professor Grinnell thinks is a resident, and Bell's sparrow — all attractive little creatures.

Running about the camp, sometimes under the table or near the tent, was the Clemente towhee (*Pipilo clementæ*). When all else was silent we would hear a scratching among the leaves under the cactus, and presently a towhee would run out and trot across the open to another place of vantage, going in with a sort of diving motion. I did not hear the note. This, or the mainland species, is the most familiar bird in Southern California, common in every garden. Those who have attached themselves to me in Pasadena diligently eat up my sweet peas, scratch up the small bulbs, and are very much of a nuisance.

Grinnell saw a waxwing on San Clemente, and doubtless nearly all the migrant birds reach here at times. Near China Point he observed the California shrike, the dusky warbler, and Audubon's warbler.

One of the very common birds near our camp was the rock wren, a beautiful little creature. When I sat by the rocky wall which rose back of us I could see it dodging in and out along the ledge, often coming up to within a few feet of me. Its song is charming,

and the little bird is one of the delight-givers of Nature, — about as common is the dwarf hermit thrush.

A characteristic bird is the San Clemente wren, which Professor Grinnell first found near Smugglers' Cove in numbers, especially on the cactus and the cherry brush. I saw several at Howland's and at Mosquito. It is an inquisitive little bird with most attractive note.

The birds which nest on the ground, as the meadow lark and the quail (partridge), are liable to be exterminated here by the foxes, which are common and for whom eggs are a *bonne bouche.*

When evening came on a number of night birds appeared, and bats were frequently mistaken for them. I doubtless saw a dusky poor-will, as Grinnell has noticed it here. The mocking-bird was common; we had but to approach the fig trees of Mosquito Harbor to see half a dozen fly into the bush, only to return the moment we left. At Pasadena it is almost impossible for me to raise a crop of figs or peaches on account of the mocking-birds and house finches.

One night at Mosquito I saw something like a big bat crawling along at the entrance of my tent. It proved to be the young of the black petrel, an attractive little creature, which I endeavored to save, but it died the following day.

I frequently saw these birds in mid-channel and not far from shore. Many of the rocks were white with the guano of cormorants — Farallone and doubtless Brandt's, — and the birds could be seen going up the coast at night, flying in long black, undulating lines looking not unlike sea serpents. The nest of Brandt's cormorant, many of which I saw at Santa Cruz, is a

mass of fetid matter disagreeable in the extreme, made up of sticks and weeds, generally placed a few feet above the water in some protected region. These birds have a curious habit of gathering in vast flocks and drifting, at times going through peculiar manœuvres, all the time uttering a singular noise. Various gulls were in evidence, especially Heermann's gull, the Western gull, and the California, seen on my various trips from May until October.

The gulls are extremely valuable. They are the scavengers of the sea, eating everything, and always on the alert. I sat on the side of the mountain one day and sighted a vast mass of kelp coming down before the wind a mile or two offshore. Presently an offshore gull sighted it; the moment that gull moved the inshore gulls saw it, and from rocks and beaches gulls flew, all converging to the drifting weed, upon which they had soon alighted, ready to secure their share of the small fry the yellowtails were trying to catch. Out in the channel Xanthus's murrelet is seen, the pigeon guillemot, the tufted puffin, and the Cassin's auklet; while wheeling about in graceful flight was the royal tern. The black-footed albatross is not uncommon about San Clemente; and the pink-footed shearwater, the black-vented shearwater, and the dark-bodied shearwater (*Puffinus*) have been seen here or near by.

The brown pelican, so common at other islands, was rare here, though I saw several, but I doubt if they nest on the island. This list of birds of San Clemente is by no means to be considered complete, as I am confident that many appear here in winter, especially sea birds, that are regular visitants. The great blue

heron was more than common at San Clemente. I counted half a dozen going up the north side and heard their harsh guttural protest as they clumsily rose and flew away. They were invariably standing on the rocks at sea level. Numerous small shore birds were seen in our trips alongshore.

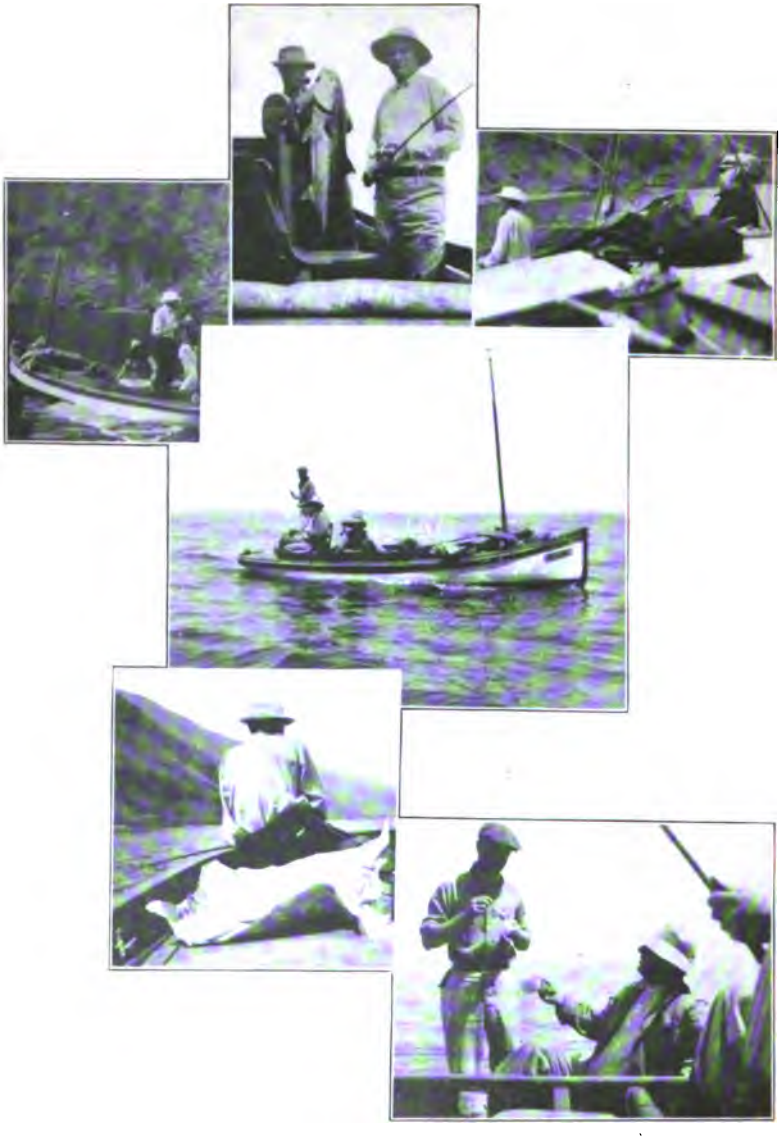
In 1909 our camp was made in two cañons. Mosquito was used as the mess cañon; the cañon to the north, or Camp Pinchot, as our sleeping quarters. In the morning, as we went up and down, it was interesting to note the tracks of birds and other animals. Here a goat had come down to drink of the sea; a gull had walked up to a dead seal; crab tracks, the delicate imprints of a fox, and then all about the fine traceries of the feet of stilts, wandering tattler, spotted sandpiper, snowy plover, black turnstone, and many more. The sands, and often the surface of the dunes at the northwest end, were pages of books by which the stroller with even a suspicion of bird lore could guess at the story of the night.

To the bird-lover these islands are very interesting, as the birds which habitually live here have in some instances changed in the struggle for existence, and adapted themselves to the conditions which prevail.

The story of bird migration along this coast is a romance and a tragedy. Twice a year vast swarms of birds migrate up and down. Minute humming-birds go from South America to the Arctic Ocean. If caught in an early southeaster in October they are borne out to sea and find refuge on the various islands. I have seen a flock of ducks at San Clemente in September whirling about in the fog, doubtless lost and confused. In Southern California the birds follow the mountain

SPORT AT THE CHANNEL ISLANDS

Sen. Flint playing a thirty-pounder with 3-6 tackle — Gov. Pardee's record black sea bass (279 pounds — 67 seconds) —Gov. Pardee of California at San Clemente Island



SEA-ANGLING WITH LIGHT TACKLE AT SAN CLEMENTE ISLAND

Gifford Pinchot playing a large fish — Sen. Flint's big yellowtail — Gov. Pardee of California and his bending rod — Gifford Pinchot and Stewart Edward White have strikes — Gifford Pinchot as Patience — Sen. Flint and Stewart Edward White toasting the big yellowtail (in tea)

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ranges and the coast lines, and many are the bird tragedies before the winter or summer limit is attained.

I am confident that nearly the same birds are found at the different islands, though San Nicolás, being so far offshore, is the most neglected; but any one who has been at sea remembers the numbers of birds which alight on vessels many miles from shore. Santa Catalina particularly has a large concourse of birds — all those of San Clemente, and many more. In winter the sea birds are particularly plentiful; auklets, puffins, pelicans, grebes, murrelets, and loons are often seen together, some following up the large schools of sardines. The extraordinary dives these loons make are interesting. I have often seen them swimming along the bottom of Avalon Bay, through the window of a glass-bottomed boat, the bird apparently fifty feet down. The parasitic jæger is an interesting bird, seen at times here and at the Santa Barbara group, where all the gulls, six or seven varieties, are found.

At Santa Catalina, Anacapa, and Santa Cruz the royal tern is one of the most attractive birds in winter, graceful and picturesque. The least tern is common. This charming bird once nested at Santa Monica, and I found its eggs in nests made of the little shell donax. The black-footed and the short-tailed albatross are seen at all the islands at times, but are not common, and I have seen the man-of-war bird at Avalon. At Santa Cruz and Anacapa the cormorants breed. On Anacapa in spring there is a vast roost of brown pelicans; they also nest at the Coronado Islands. Ducks are not common at the islands as there are no lagunas; but I have seen flocks of geese, ducks, and even white pelicans at Santa Cruz. At Santa Barbara, Larco, a

fisherman, had for years a tame white pelican. The bird would leave at the mating season and return. If I am not mistaken he still has this singular pet. Nearly all the ducks of the East are found on the mainland coast. I once saw a wood duck at Santa Cruz, and the American egret and the snowy heron. Birds following up the coast would be much more likely to arrive at the Santa Barbara Islands than at Santa Catalina. The number of shore birds — sanderlings, godwits, sandpipers, and snipes — found along the sandy beaches is remarkable. But the most extraordinary bird aggregation I have seen was at the islands off Sonora, Mexico, where every yard had its birds.

The wandering tattler is common at all the islands, and at Santa Cruz I saw a curlew — another visitant. On all the islands the mourning dove is found, and the great band-tailed pigeon, which I have often seen on the mesa after a snow-storm in the mountains, is seen at times at Santa Cruz and Santa Rosa. A number of small hawks occur at the various islands, and the belted kingfisher is common.

If a careful list of the small birds seen in one year at Santa Catalina, Santa Cruz, and Santa Rosa were made, it would be a large one and would include many of the small birds of the adjacent mainland, as kingbirds, flycatchers, phœbes; Costa's, Anna's, rufous, Allen's, and calliope humming-birds; shrikes, bluebirds, swallows, wrens, warblers, and others. At times, in summer, the islands stand out with such distinctness that they offer alluring resorts for birds. Again the severe sand-storms may blow birds offshore, and the heavy southeasters doubtless send many to sea. And

as the birds come up the coast in spring, or go down in the fall, they probably make short cuts below Point Concepcion and so alight on the Channel Islands as resting-places. The mocking-birds, finches, doves, hawks, and countless others remain as more or less permanent inhabitants.

CHAPTER XIII

HUNTING THE WILD GOAT

SEVERAL centuries ago some one — perhaps Cabrillo, perhaps Vizcaino or some other gallant Spanish explorer, perhaps Junipero Serra, the missionary, or some of his followers, or possibly some one in the nineteenth century — *Quien sabe?* — placed on the islands some goats. They increased rapidly, changed a little, became shaggier and larger, until to-day there are several thousand on San Clemente and Santa Catalina and a few on Santa Rosa and Santa Cruz. Being undisturbed they have in a large measure reverted to the wild state. They are as wild as the wild goats of Asia Minor or anywhere, wild enough to afford good sport which the extraordinary nature of the Island of San Clemente particularly emphasizes.

Our party in 1907 made its headquarters at Howland's on the northwest coast, this harbor being the best in summer, with a lee from the strong northwest wind that rushes in and down the San Clemente Channel every day. The island is low at the northwest end, but gradually rises. When we reached the central portion one bright morning we came to the edge of an extraordinary cañon which seemed to bisect the entire island, but was in point of fact a vast crack or wash in the lava. The descent into it was possible only by one of the most extraordinary trails one often

hears of or sees, as it was a mere indication down the steep side, and the last part of it was a slide. No Eastern horse could have been tempted even to look over the edge of this abyss; but our San Clemente horses, bred by our host, Mr. Charles Howland, took the trail as a matter of course, in fact, they frequently made it at night.

As we stood looking down into and up this extraordinary rift in the lava and conglomerate, the cry of a wild goat came clear and vibrant from somewhere high above us, and a goat hunt was decided on. My companions, Pinchot, Potter, and Howland, turned their horses up the range along the edge, while I, adjuring them not to take me for a goat and fire at me, began the descent, purposing to climb the cañon from below and investigate the wonderful series of caves in which the goats made their homes.

It was interesting to watch my horse go down this trail of trails. As he was familiar with it I let him go, and we slid, scrambled, and struggled; then, as the last forty feet was a slide on slippery rock with a sharp turn, I dismounted (not that I had lost faith in my steed) and slid down, as did my horse. When he reached the turn, which was a sharp one at right angles, he merely braced a little, and made it, and I still had the *reata* when we landed in the bottom of the Cañon del Cueva, by, it should be added, a special dispensation. This was altogether the most interesting toboggan I had ever attempted.

Once in the cañon I could see far up its winding length a most fascinating vision, great cliffs rising precipitously, filled in layers, pairs, and groups with caves of remarkable size and appearance. One might

imagine this a rent in some cañon of the moon, where a giant pteranodon-like woodpecker or rockpecker had delved, picking out the soft places in a strange conglomerate, until the entire surface was a maze of caves; or one might picture some apparently imaginative achievement so uncanny and weird that one could but stand and look far up the deep rift into the tender blue field of visual endeavor — stand and try to adjust the imaginative values. The rock was brown and red, and far away it melted into the blue haze. The caves were seemingly patches of black velvet, and all had ragged gnawing edges like teeth. Surely I was in the front row of some spectacular extravaganza conjured up by a clever magician. I sat, forgetting my horse and where I was going, when I saw a moving object in the mouth of one of the largest of the caves a thousand or more feet above me. Then came a shot; and as the echoes rumbled, rolled, and caromed down into the abysmal depths of the rift I saw a black and white goat come out of the velvet-mouthed cave and dash down the seemingly impossible slopes, springing from rock to rock as shot after shot rang out.

Suddenly he stopped on the very pinnacle of a cape which projected into the air, stood a moment in strong relief against the blue haze, then (Pinchot must have caught him as he started) fell and rolled over and over down into the cañon. I started up the cañon to see if I could reach him, but my way was stopped by huge rocks, and from here I could see the goat-hunters coming down the side after the game.

A more sporting proposition than goat-hunting on this island can hardly be imagined; if we could give

the wild Spanish goat the term *argali* or *chamois*, the sport would be without a flaw. To take this wild goat one must sail over fifty miles of ocean and climb some cliffs and cañons that have peculiarities which render the hunting as difficult as in many high mountains where mountain sheep is the game. From this cañon south or east San Clemente abounds in wild goats. The only note of warning I would sound is, that a hunter in these mountains requires a guide and companion, and should never make a long trip alone.

The following year our camp was at Mosquito Harbor, about four miles from the east end. Here the cliffs are extremely abrupt and precipitous. For long distances down the coast there is no landing unless one has the attributes of a cat — sheer precipices of one or more hundred feet, cut here and there by deep cañons, while spouts, falls, and cascades of water abound during the winter rains. The Mosquito Cañon is called "Mosquito" because it is a solid rock and the water stands in a series of basins — encouragement to the few melancholy mosquitoes supposed to live here.

We could often hear high in air the cry of a young goat, and the answer; and near the summit — now lost by the fog flecks, now in the bright sunlight — we could see the stalwart forms of big bucks standing monarchs of their pinnacles, looking down at the human pygmies a thousand feet below. The goat-hunters were now Gifford Pinchot and Stewart Edward White. This day I followed them up with a double-barrelled, hard-kicking camera, which had a fatal propensity to try to take two or three pictures on the same film, — a bad habit for a kodak, productive of more or less keen and passionate criticism, not to say invective.

Our camp was a little *cul de sac.* In front of us was the sea, blue, divine in color, alluring; behind, the deep knife-like gash of a stone cañon hammered out by the water gods and nereids, impossible to climb. To get out, one had to climb a steep and uncertain slope of rocks and shining yellow wild-oat hay, as slippery as such a thing can be. Up this one-thousand-foot precipice we started.

Climbing mountains on a run when the angle is 80° or thereabouts is not my long suit, though I claim to be a protagonist for the athletic and strenuous life principle. Our friend Governor Pardee illustrated my real attitude. He sat on a box in the cañon smoking a good cigar, while Senator Flint and I made an effort to keep within a thousand *varas* of the wild-goat hunters. I think the Senator and I went just to show that we could do it if pushed, while the philosophical Governor knew he could do it, and did not care to prove it at his own expense.

To make the ascent in comfort, which was really not much of an affair after all for goats and sheep, we followed the sheep trails for the first two hundred feet, going from shelf to shelf, and a third of the way up reached a bench or mesa. Here the actual climb began, in a place where, if a man or a goat made a slip, he would have rolled and slid down over the glass-like wild-oat carpet and landed in the cañon, a thousand or so feet below.

Slowly we crawled up, rising over the splendid expanse of water. Every moment the objects in our little cañon grew smaller and smaller as if we were shooting up in a balloon. Now we moved along the slope of a cliff that tipped into our deep rocky cañons,

and I stood a while on the edge of this abyss holding on to a Lyon's ironwood tree that looked into it. It well repaid the climb to see the extraordinary work accomplished by mere water in cutting down through this lava and conglomerate wall which makes up the side of the island. While resting here I heard a shot, and over the side of the mountain, far above, came a wild goat and after him Pinchot and White, running down, firing, always with revolvers, finally getting the big buck, which rolled down the side of the precipice at the side of a cave of large size high up in the wall. Here I photographed the winged victory, and the hunters took the big head, the buck having a wide spread of horns even for a wild goat.

Some of the shooting done by the party with six-shooters was remarkable. In many instances the shooting was done across the cañon and at long range; indeed, I saw Pinchot kill a goat — high up on the slopes — from our launch as we were sailing down shore. There was no mistake, as this goat was wounded, and Pinchot insisted upon being put ashore to get the animal.

Lying on the slopes, seemingly over the ocean, it was an interesting sight to see the sportsmen stalking their game, which undoubtedly lived in the caves which honeycombed this part of the island, hundreds of them being so high and isolated that eagles and ravens alone could reach them. Suddenly I would hear the long penetrating cry of a goat, and out on some pinnacle a buck would appear, to stand a moment statuesque, then dodge and plunge down the slopes as the whining note of a bullet cut the vibrant air.

I believe I am not overstating the facts when I say that these alluring slopes are dangerous to the man not familiar with mountain-climbing, as in descending the weary mountaineer might reach a spot where he could not climb out, the goat paths leading one out to where wings are necessary to get down, and where wind is necessary to ascend. When we were two-thirds of the way up, the fog suddenly came whirling down from the summit. It was one of the hottest days of summer, a peculiar electrical condition prevailing. I could see the great peaks of San Jacinto, San Bernardino, and San Antonio in the main range of the Sierra Madre nearly one hundred miles to the east; to the north Santa Catalina rested like a sea monster on the steely surface of the ocean, distorted by the mirage, so near that I felt I could almost span the thirty miles with my arms. Away to the south, Point Loma stood out, and still farther away the Coronados rose from the sea in Lower California, telling of Coronado and its varied attractions just opposite. So charming and impressive a view I have rarely seen as that which stretched away before me. The vivid turquoise of the sea filled the foreground; then the slopes, the vast displays of rock, the infinite depths of the cañons beneath the caves, which you know no human foot has entered, or ever will, all formed a picture of profound interest.

As I stood I saw a silvery cloud creeping down the slope like a living thing. The sun glared fiercely upon it and changed it into molten silver. Reaching the cañon, the hot ascending air shot it upward so that it appeared like a great wave. In a few moments it had reached the pinnacle upon which I stood, and, as

if some magic wand had been waved, mountains, ocean, rocks, abysmal cañons, distant peaks melted away like a dream, and from a burning temperature I was projected into one that had the chill of night. For a short time this genie of the sky swept about me, so thick that I could hardly see a yard ahead; then it broke, became dissipated, the varying currents of the mountain cañons rent it in twain, and through a thousand hazy openings I could again see as a mosaic the turquoise waters of the Kuro Shiwo. Again the sun shone, the mountain slopes were tinted with gold as the strong light fell on the dead wild oats whose awns sang in the gentle wind.

This spectacle of the fog on the Channel Islands is a wonderful vision. The fog comes in at night, generally beginning in the afternoon about four. It strikes the southwest coast of the island, creeps up to the summit, and instead of passing on is blown down against the north slope — flattened out, as it were — thence pours and creeps down the one or two thousand feet in a splendid fall of flocculent silver, a spectacle of profound majesty and sublimity, yet among the common phenomena of this home of the wild goat. I have repeatedly seen it here; also at Santa Catalina, and best of all at Santa Cruz.

Released from the fog flurry I climbed on until I reached the summit, a level mesa from which the many cañons sprang. There were no goats in sight, nothing but eagles high in air, and an occasional raven. The choya cactus and the tuna formed a broken forest here and there, among which I found the remains of stone implements, telling of the natives who once lived on these heights. From the summit I could hear the

cry of the wild goat now in the cañons, and from where I stood overlooking the deep rifts I could follow the sport below.

Santa Catalina and Santa Cruz Islands also abound in goats, those on the latter of a different variety. The horns are shaped more like a lyre, an attempt having possibly been made to improve the stock. I have taken an active hand in the sport on Santa Catalina, and have hunted the goats on horseback to the summit of the highest peak, stalking and securing the game only after a strenuous ride around its rocky sides. The wild-goat country culminates in a mountain which is really two peaks, Mount Black Jack and Mount Orizaba, twenty-two hundred feet high, readily seen from a great distance. One day after a long hunt in which I had bagged nothing, I found that I had worked around into a deep abounding in rocks. With great difficulty I got my horse out of this bad land, and reaching a soft slope, a sort of *llano* on the mountain side, I turned him, and settling back on his haunches he tobogganed down a hundred feet, literally running into a herd of goats which had been lying on a sunny lee behind a rock, and which ran away in every direction. I fired from my saddle, my well-bred island horse not moving, and broke the hind leg of one of the animals, sending him rolling down into a cactus forest, where a second shot gave him his quietus. This was a singular instance of luck or coincidence. I had first sighted the goats from a ridge to the south of Big Cottonwood Cañon, and fired across the cañon at a buck on the slope of Orizaba. I missed him, and all that day followed these will-o'-the-wisps with big horns, running into young ones

and females now and then, and only at the end of the day, literally by accident, I slid down into the herd that, confident in their protective coloring, were lying in the little nest on the rocks over which I had doubtless looked many a time.

The goats are well adapted to San Clemente, which appears to be a desert at times; but the ten or fifteen inches of rain in winter converts the island into a garden, and the cañons bloom with myriads of flowers. The calochortus, the poppy, the painter's brush, and the yellow violet cover the ground in places; wild oats grow to an extraordinary height and tint the hills a vivid green; the heteromeles or holly is brilliant in reds, and many parts of the island revel in verdure on some of which the wild goat feeds. In summer he takes to the natural hay, the alfilaria, or to the succulent leaves of ironwood; and if worse comes to worst, he fares well on the cactus, obtaining therefrom both food and drink.

The goats have hardly any enemy but man. The islands all abound in bald eagles, and doubtless a few kids fall to their talons, though the bald eagle of the shores is more of a scavenger. I have heard from herders and riders in the range tales to the effect that the eagles reduce the number of the sheep, preying on the young; but a dead fish floating alongshore, or on the beach, is more to the taste of these island birds of freedom, and I fancy the wild goat is free from nearly all the terrors except man.

It is said that there are ten or twelve thousand wild goats on Santa Catalina on the north end of the island, especially old bucks with wide horns; but the hunting is best in the southeast end, where the goat is at home

in the wild and attractive cañons of the Cabrillo Mountains and in the great cañons which radiate away from Mount Orizaba.

The shores and cliffs that breast the sea of such islands as are the habitation of the wild goat and eagle are best known to the average visitor, but to see the islands really one should follow the game into the deep cañons and the nooks and corners, where high and radiantly tinted cliffs face the sea, up from which comes the faint cry of the goat or the hoarse bark of the sea-lion basking on the rocks far below.

CHAPTER XIV

THE LONG-FINNED TUNA

WHILE some fishes are around the Channel Islands a few months, more or less, the long-finned tuna (*Thunnus alalonga*) may be expected almost any week in the year; and of all the fishes of these notable grounds it affords the tourist or stranger the greatest sport, as it is one of the hardest fighters in any sea.

Nearly all waters have the albacore. In the mouth of the St. Lawrence and in the Sea of Cortez (Gulf of California) the leaping tuna is known as the albacore, but the real "little pig," as the people of the Orient call the albacore, is a very different fish, as can be seen by comparing it with the others on the plate facing page 53. The true albacore somewhat resembles the leaping tuna, but has extraordinary sabre-like wings nearly as long as itself; not wing-like, as in the real flying-fish, but long, slender, sword-like fins, which apparently are held stiff at an angle when the fish swims, and serve seemingly as balancers.

I believe no fish in these waters will so impress the stranger; not only for their vast numbers, but for their extraordinary tameness. In their habits they resemble the bonito and other tunas, being oceanic or pelagic forms rarely found inshore, though one of the largest I ever saw, a sixty-three-pounder, taken upon a rod, was hooked within a few yards of the

kelp, and towed the boat three miles before it was landed. This was exceptional, as the fish generally lie in well-distributed schools from one to three miles offshore and never in numbers close in. They seem to affect situations about thirty or forty feet from the surface, in water so blue and beautiful that an adequate description is difficult; and that they seem adapted in tint, tone, and color to their radiant environment is evident at once.

I have seen many waters, but none so really beautiful as those affected by this fish. You can see so deep into it, it is so eternally limitless, so pure and unsullied, so receptive to the sun, whose rays play upon it, branching out like some marvellous aurora. Here and there, floating on this liquid sapphire, are jellyfishes, framed as if by fancy in delicate shapes; some solid, in striking lavender hues, from which stream behind splendid trains thirty feet long. Others are so small and delicate the eye can scarcely distinguish them, classic in every outline, with dainty appendages. Then there are the salpæ, fiery ascidians, which fill the ocean with light at night. I have seen them so massed in the Santa Catalina Channel that they pushed one another above the surface, where, the sun striking them, they glistened and scintillated in a marvellous way.

If now we lean over and examine this water we shall see that it is filled with millions of living things. There are great masses of hair-like forms, minute diatoms, shoals of the glorious infusorians, as the peridinium, which cannot be seen with the naked eye, with countless congeners capable of making their presence felt only at night when their soft light blazes up and fills

this region of deep blues with dazzling brilliancy. Sometimes this peridinium increases its numbers in a remarkable way, covering the ocean with what is known as "red water." This collects near shore, as in 1902, when it made such a remarkable demonstration at night that people went from the interior to see it. Some of the papers of the day described it as the result of an earthquake. At night the entire Santa Catalina Channel seemed to be changed into a caldron of light, as ominous as beautiful to the ignorant. Where the animals were washed ashore every mark or imprint, as a footprint in the sand, left a vivid luminous train. I saw a dog trotting along the beach, leaving round luminous marks, and as I wrote my name in the sand with my cane it came out in letters of light. I took a little of the water in a bottle to Pasadena to show some doubting friends. When the bottle was uncovered there was nothing to be seen, but when I took it into a dark room and shook it violently it blazed up with so vivid a light that I could almost read large print by it.

The chief ground for the long-finned tuna lies about two miles directly off Avalon Bay, which might suggest that they could be found anywhere in deep water; but this does not follow. For some reason they seem to affect this region more than any other. Possibly it is the smooth water. By going a little more to the southeast we can find the perfect lee of the island, where it is often as smooth as glass for hours and days at a time.

In the morning, or practically at any time, the well-equipped launch sails out of the bay, and the two anglers unreel their lines for albacore. Before the best

ground is reached one can perhaps take a bonito—one of the delight-givers of these azure seas. Perhaps the fisherman is using a nine-thread line and a nine-ounce rod, with a wire leader and a sardine as bait. Almost before he is ready, if this is his lucky day, *smash* goes something; the rod has been jerked nearly out of his hand, the reel is screaming in a high C, and the delicate line is melting away. There is nothing quite like this rush, though in a day's fishing here one is apt to say the same thing of every fish, from the yellowtail up. The distinctive characteristic of the long-finned tuna is his going down and staying there, and sulking like a dozen salmon. If you really wish to test this fish, to compare him with the salmon as a fighter, procure a salmon rod and take a long-finned tuna with it. It will be an interesting experience, and it will require time, of which there is abundance at the Channel Islands. I have seen this fish when he sulks. His head is pointed downward, he has his broad side to you, and he never ceases to bore down and down. It requires from twenty minutes to half an hour, the latter at least for me, with Three-Six tackle, to turn the game. Slowly he comes up, fighting every inch and foot; at last at the quarter your gaffer gathers him in, puts him out of his misery, holds him upon the scales and declares the weight; it is forty-three pounds.

A sturdy, handsome fish is the long-finned tuna, with his powerful compact body, big black eyes, long poniard-like fins, a mass of muscle and nerve. Once found at Santa Cruz, Santa Rosa, Anacapa, or Santa Catalina, it is not necessary to troll. We allow the launch to drift, and the boatman "chums" — tosses

A YELLOW-FINNED TUNA

Played and brought to gaff by Mr. T. S. Manning

MR. T. S. MANNING PLAYING A YELLOWTAIL

over bits of sardine or cuts up another fish. Almost as soon as this strikes the water the albacores appear. They have not been seen before, so must lie forty or fifty feet down; but the moment the silvery objects appear, up they come with a rush, bonitos, and sometimes the yellow-fin tuna with them, a ravenous horde, taking everything in a whirlwind fashion — your bait, the floating pieces, and anything you may toss over. To test their tameness, impale a sardine on your gaff and lower it down. In a moment a thirty-pounder has seized it and you have gaffed and lifted him in. But I advise you not to tell the story, as no one will believe it, though it is one of the easiest things to accomplish when these fishes are biting in their normal fashion. With a little patience you might be able to induce one to take a sardine from your hand.

The sight when this horde rushes up and dashes into the field is a peculiar one. The fishes are a vivid, almost iridescent blue, particularly the bonito; and as they dash about they are the humming-birds of the sea.

There is but one species of this fish, *Thunnus alalonga*, and it is closely allied to the great tuna. It is rarely seen in the Atlantic, but is common in the Mediterranean and about all the Channel Islands and various parts of the Pacific. It roams the seas in not very compact schools, often travelling with the tunas or bonitos; a big hard-fighting, roistering fellow, which, were it possible to take him in shallow water, would occupy a place with the salmon as a great game fish.

Very little is known as to its breeding habits. Those specimens taken here contain spawn; hence I assume that they deposit their eggs on the high seas. The

breeding habits of nearly all the fishes here are mysterious. I have never seen an albacore under ten pounds weight; hence the young do not come here — they go to some other region, not returning until large. All the long-finned tunas taken here range practically about the same size — from seventeen to twenty-seven pounds; large ones come up to thirty and forty. I have seen a sixty-three-pounder taken, and Vincente Moriche tells me that he has seen them in the San Clemente Channel weighing one hundred pounds.

The Tuna Club rod and reel records are as follows:

LARGEST ALBACORE (*Thunnus alalonga*)

	Pounds
Chas. W. Miller, Denver, Col., season 1901	30
Ernest Fallon, Los Angeles, Cal., season 1902	35
John Van Leiw, Los Angeles, Cal., season 1903	38
Stewart Ingram, Los Angeles, Cal., season 1904	46
I. C. Pillster, Denver, Col., season 1905	48
Gustave J. Frickman, N. Y. City, season 1906	38¾
A. B. Cass, Los Angeles, Cal., season 1907	41¾
C. R. Sturdevant, Pasadena, Cal., season 1908	43¾
J. W. McIntyre, Catlin, Ill., year 1908	65 lbs., 3. oz.
S. A. Guy, Shreveport, La., season 1909	43¾

CHAPTER XV

THE EVER-CHANGING ISLAND (ANACAPA)

IT has been my good fortune to observe Anacapa from almost every point of view, and I can testify that the unknown person who named it the "ever-changing" was a man of discernment; for so strangely is Anacapa made up, or thrown together, or pulled apart, it changes constantly as you pass it by.

I have caught sight of it across the sandy country from Hueneme to San Buenaventura, from the top of Captain Banning's six-in-hand coach when we were on our way up the coast. I have seen it from the slopes of the Sierra Santa Ynez, or when coming down along the steep cliffs from Santa Barbara. I have sailed in upon it from the direction of San Nicolás in the yacht of Captain Wm. H. Burnham, sailed all about it, and again have come upon it suddenly when coming down the coast in the steamer from San Francisco, and Anacapa was always changing. Some peculiar rock or peak was always different, as if genii were playing a trick upon the imagination.

The first time I landed here we came upon it from the south and found the east end a great tilted mesa reaching out into the sea. A piece had been cut out of it, and the isolated portion formed a vast sea arch through which a large yacht doubtless could sail. As we drew nearer on the port tack, with schools of bonito everywhere about us, the mesa was seen to be

covered with brown pelicans; and as our gun sounded a not very heavy awakener, they started up in vast numbers, and in great wheeling coils rose upward into the sky.

Anacapa is doubtless an island in the last stages, fighting for its life, though it may never have been much larger; and it is interesting to land and note the ravages of the sea. It is the most easterly of the Santa Barbara group and is not over eleven miles from the mainland or Hueneme Light, at the nearest point. To all intents and purposes it is one island, Anacapa, but when you land or cruise about it, near inshore, it mysteriously divides itself up into three or more islands; doubtless the divisions have been eaten in by the gnawing tooth of the sea. The island forming the east end is the lowest; about a mile long and a fourth of a mile wide, with an altitude of about two hundred feet. This is really divided into two islands, the arch referred to forming one.

The middle island or link in the Anacapan chain is nearly three hundred and twenty feet high, one and three-quarters of a mile long, one-fourth of a mile wide. The largest island lies to the west. Its peak, nine hundred and eighty feet high, can be seen thirty-five miles offshore when the day is clear and hot. The others can be sighted from fifteen to twenty miles away, and are so flat or peculiar that they appear like strange exhibitions of the mirage. The little channels which divide the island are tempestuous places in storms when the sea rushes through and climbs the shores, flinging the spoondrift and flying scud far into the interior and starring the beetled cliffs with incrustations of salt.

The island, like many others, rises out of deep water and is surrounded by a forest of kelp or nereocystis, which affords a refuge for myriads of fishes. The coast is a maze of strange caves eaten into the rock. One of vast size is supposed to have been used by the pirates of old, and until late years by seals and sea-lions. Many of the caves are beneath or just at the surface, and are constantly hissing and growling like living things, and spouting water in great white flocculent masses with the marvellous force of compressed air.

There are several anchorages; one, one-fourth of a mile north of the middle of the island in about sixty feet. There is another anchorage on the south shore, and a small boat can land anywhere. With a sixty-ton yacht we found the most comfortable landing behind a little neck on the north side of the west end of the western island. Here are a little cove, good anchorage except in a southeaster, a fisherman's hut, and a sandy beach. The island is a nest of caves; one could cross it through caves or great windows in places.

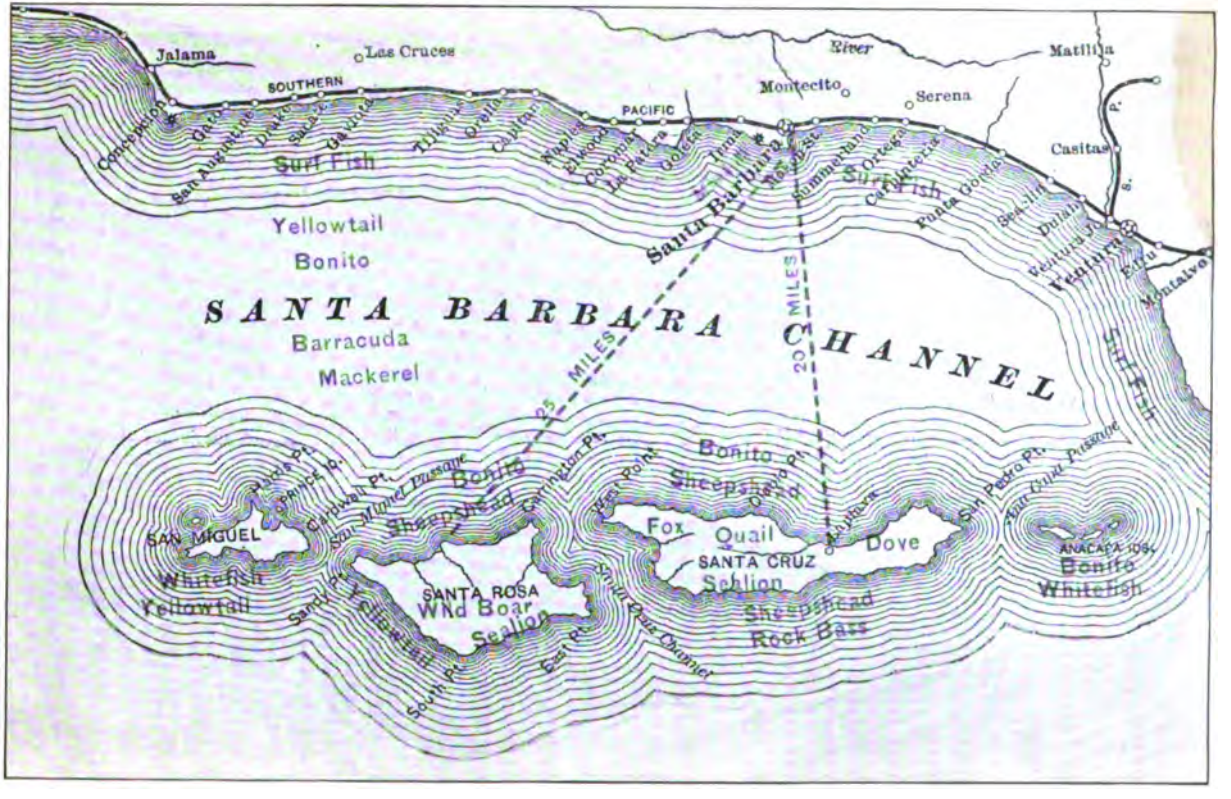
To the eye the island is arid and deserted, but all the pools and crevices are filled with animal life; beautiful anemones line the rocks; limpets and abalones are piled on one another despite the ravages of Chinamen and Japanese, and the pools and natural aquariums abound in a variety of forms. It is a sheep ranch, and several hundred animals find sustenance even on the dry verdure of summer. In winter, after the rains, the island blooms again and takes on radiant tints. There is little or no water for the sheep, yet so dense is the fog that their coats become soaked at

night, each sheep being a sponge before morning; so what is easier than for one sheep to drink from the fleece of another?

The herder and a man who said he was a State senator, who were found on the island at the time of my last visit, told this story. I confess that I felt I was being overloaded with facts, yet I did not resent the imputation that I looked as though I would believe it; and after some days' experience with the night fogs that sweep in here I was ready to believe anything. I saw sheep that were walking sponges.

Anacapa was thrown up by some upheaval of the crust, and that it has been pushed up at successive times is shown by its terraces, one after another, to an altitude of three hundred feet, according to Gates, a point that escaped my own observation. Anacapa, geologically, is a part of Santa Cruz. That it had a population long ago is apparent, as I found evidences here and there of kitchen-middens, and deposits of ancient shells, and the tell-tale black earth.

In the spring the Indians and Mexicans go over at the bidding of the owner to Anacapa to shear the sheep, many of which in dry years are killed to save the rest. The island is so near the mainland that it may be said to have the same birds, being in the line of offshore migration. I saw many of the small birds, as the finch and the meadow lark; and in the rocks small mice, common on Santa Cruz. There are several sea-lion rookeries here, and in former years the island abounded in otters and sea elephants. Its waters are alive with fishes of a desirable character, and its rocks afford shelter to countless crayfishes or spineless lobsters.



ANGLING MAP OF SANTA BARBARA ISLANDS, SHOWING LOCATION OF FISHING GROUNDS

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Arid appearing, desolate, wind-swept, Anacapa is withal a valuable possession to its owner, and one of the picturesque islands of the entire group. Its strange rocks, moving, passing, intermingling, made a strong impression on my mind, an impression of warring nature, conflicts of wind and rock, of seas eating into its very vitals, of caves that undermine it, and of the old rock fighting for its very life against the sea. Yet the last day I rowed along its shores the sea was a disk of steel, the wind was soft as velvet, and the deep blue water played in musical rhythm on its sands and rocks.

In going north to Anacapa from Santa Catalina, though the distance is only one hundred miles or so, the change is marked. The winds are heavier in summer; it is cooler; and the fog banks, in grim and black menacing shapes, come in like night, encompassing all things.

In summer the mornings up to ten o'clock are usually calm, the so-called trade wind, which is confined to about fifty miles offshore, begins to blow, and by one o'clock, or two, it is often blowing stiff and heavy from the west, dying away at night. The island is surrounded by deep water. There are no shoals, and a deep channel four miles wide separates the west end of Anacapa from the east end of Santa Cruz. The islands in the Santa Barbara Channel are so in line, forming a chain about fifty-five miles long, west by south, that the conclusion is irresistible that they once formed a sierra, and are the remains of a submerged coast range.

Anacapa is owned by sheepmen of San Buenaventura, and occupied continuously as a sheep ranch, but

in summer it is visited by yachts and campers from the neighboring shore, and by fishermen, who find excellent sport along the wide kelp beds and in the shadow of the deep cliffs.

Anacapa is in the famous Santa Barbara Channel which is about fifty miles long, the course where the warships are tried out on this coast. A salubrious climate is enjoyed by the islands and the adjacent country. Owing to the configuration of the coast and the deep incut of the land here it is protected from the prevailing west wind. It is also said that the cold current that is supposed to run south alongshore inside, the Kuro Shiwo, does not deflect into the Anacapa and Santa Cruz region; that here is found a return current from the south, which gives this particular region a delightful climate on land or sea.

CHAPTER XVI

THE ANIMALS OF THE ISLANDS

IN sailing down the Santa Barbara Channel we notice that the long axis of all the islands runs parallel to the adjacent counties of Santa Barbara and San Buenaventura, or about northwest and southeast; but when the Santa Catalina Channel is entered, the lower islands in a general way have their long axes parallel to Los Angeles and other counties. The north islands are sierras out at sea, parallel with the Santa Ynez Range, while the islands one hundred miles or so to the south turn in an opposite direction. The tooth of an ancient elephant (*Elephas americanus*) was picked up some years ago at Santa Rosa. Whether it was carried over by some Indian in exchange for mainland articles it is impossible to tell. Geologists believe it belongs there, as other bones have been found, and that this animal once roamed the region when it may have been connected with the shore. The fauna of the islands is more interesting than extensive. An exhaustive survey has never been completed, though several attempts have been made to record the land animals.

On San Clemente there are sea-lions and seals, and not many years ago the sea elephant of large size lived here. In many of the caves dogs were buried as mummies, but these were brought over by the Indians, who got them from the Spaniards and Mexi-

cans. Wild dogs were found on San Clemente as late as 1850. The most conspicuous animal on San Clemente, aside from wild goats, which were placed there, are the foxes, which doubtless were also introduced, though this is by no means positive — merely my opinion. The fox is an attractive little animal, easily tamed, and I can imagine it kept as a pet by the Indians. They increase so rapidly that it is necessary to kill them. In my last trip to the island I saw several at Don Lorenzo's ranch which had been poisoned.

This is the only large mammal on San Clemente. Around the camp at Howland's was a white-footed mouse (*Peromyscus maniculatus clementis*), according to Grinnell, peculiar to the island. Once at the harbor of the Cañon Diablo at Santa Cruz these little creatures fairly swarmed about the camp and in the rocks of the beach at night. At Santa Catalina there is a Santa Catalina white-footed mouse, a distinct species, *Catalinæ*, and Professor Joseph Grinnell has found that the island partridge is peculiar to Santa Catalina. Another little creature, the harvest mouse (*Reithrodontomys catalinæ*), is also peculiar to this place.

If there are squirrels at San Clemente I have failed to see them, but they are in evidence at Santa Catalina. I have also seen the gopher here, and I think a wild cat, though of this I am far from being positive, having caught only a glimpse of the animal, which had a bobtail and was large for a cat. Some years ago a man began to catch foxes for their tails, cutting them off and releasing the animals. Whether he expected they would grow again I do not recall, but he secured a large number of brushes in this altogether savage way. In time a guileless naturalist came to Santa

THE ISLAND FOX

BIG BASKING SHARK OF SANTA CATALINA

Towed into Port by Capt. George Michaelis

Catalina, so the story goes, and he began trapping foxes. One or two without tails was a mere chance, but several foxes without tails meant something; and it is said the tailless fox of Santa Catalina Island was described as a distinct species. With this awful catastrophe in mind it becomes a layman to be cautious about crediting wild cats to this island where there are ordinary cats running wild on the upper island,— cats left by campers and gone to the bad, preying on partridge nests.

To me the foxes of San Clemente, Santa Catalina, San Miguel, and Santa Cruz look very much alike, and that they bite exactly alike I can certify. That of San Miguel is *Urocyon littoralis*, Baird. The one on Santa Cruz is *Urocyon littoralis, Santacruzæ*, according to Merriam; while the beautiful little animal at Santa Catalina is the Santa Catalina Island fox, *Urocyon catalinæ*, Merriam. These little animals were so tame at Middle Ranch at one time that they would come up to the door of the camp at night and look in, and several would be caught every night. I remember Chinetti, at San Clemente, told me that the foxes would eat from his hands, and even come into his house, — a proceeding which pales into insignificance before the appearance of the gigantic wild sea-lion, Big Ben, on the beach at Avalon, where I have seen him on the public street, or climbing onto a float, to take a fish. The fox of San Clemente is different still, *Urocyon clementæ*, Merriam.

There are several large bats, at San Clemente, and a small one. They came into my tent at Mosquito. The little one is *Myotis californicus*. I have caught them in a landing net at Avalon as we caught small

bats at Klamath. This little creature has also been observed at Santa Cruz, and doubtless is found at San Miguel and Santa Rosa. There are wild burros and wild cattle on Santa Catalina, but they are runaways from herds. I have never seen any other animals here. There are few rattlesnakes on Santa Catalina, but in many miles' travel over this island, at all seasons, I have never seen but one, and that was a small one with a single rattle, which was run over in the streets of Avalon in 1909. The gopher snake is said to occur here, but I have never seen it. Between Little Harbor and the Isthmus, near an Indian camp site where I found a number of implements, I saw a beautiful coral snake with alternate rings of red and black. There are a number of lizards on the island, as the brown-shouldered lizard (*Uta stansburiana*), the island fence lizard (*Sceloporus*), and the common alligator lizard (*Gerrlionotus*). I have seen the latter at Santa Catalina and others at San Miguel, Santa Rosa, and Santa Cruz. The island night lizard (*Xaxtusia*) is common on nearly all the islands. I have never seen coyotes, skunks, badgers, or any of the large mammals common on the mainland. If any such did occur they may have been killed off by the natives. The sea elephant was once common on Santa Catalina, as we are told by Scammon, and seals and sea-lions and a very few otters are still here. About twelve years ago I saw a white otter near Church Rock.

Doubtless a careful and exhaustive examination would show other small mammals and reptiles, especially at the large islands, but there are extremely few reptiles or insects that are in any way a menace to human life or comfort.

A large number of whales are constantly around the islands, the California gray being the most in evidence. Its bone is so small, and its temper when struck so uncertain, that the old whaling stations have gradually been given up. The sulphur-bottom is also seen, and one or two others. It is not uncommon in crossing the channel to see one or more whales, and they at times approach the vessel and swim alongside.

A few years ago Captain Trefathom sighted a large school of whales off Avalon. For many days they remained in about one spot so that people took the trip to see the whale convention. So tame are the whales here that not a few have been struck and killed; and in 1909 a monster basking shark was injured by a steamer and towed into Avalon by Captain George Michaelis.

The following is related by a sailor man about Aleck Smith, one of the old captains of the Banning steamers; and as he repeated it to me I can give it as a fact:

"Aleck Smith was once owner of a little fishing-schooner; one day the whales took to it and badly frightened some of his men. I don't reckon it pleased Aleck much. He was caught in a dead calm off the head here, when all at once about half a dozen whales come up alongside, as sociable as you please. One, nearly seventy feet long, thought he would give Aleck a ride, so he bumped up amidships and lifted the schooner about a foot, so that everybody slid into the port scuppers as if they were skating. Then the whales got under the stern, and the vessel pitched; then all the whales got around her and spouted. A little breeze finally sprung up, and the schooner got

away before it and into the kelp, the whales following in as far as they could.

"You see," explained the sailor, "the whales took the vessel for some kind of a whale. Any one will tell you of the big bull whale that fell in love with the ship *Marco*, and followed her from 'Frisco to Chile in South America, never leaving her day or night. The whale thought he had struck a mate and stayed by the ship, in good weather and bad, for over five thousand miles, from the north temperate to the south temperate, hot and cold. As a rule, whales don't take to the equator or hot water, but nothing could stop this whale.

"The animal was sighted after the vessel left the Farallones, and was a sulphur-bottom about sixty-seven feet long — pretty near as big as the ship. He generally swam along the weather quarter, or just under the rudder, once in a while running alongside and scraping his back against the bottom. These sort of love pats is what first attracted the attention of the crew. The ship gave a sort of list, and lurched to lee'ard, trembling like; such a peculiar motion that the watch who had turned in came hurrying up on deck. The skipper thought it was an earthquake; some thought the vessel had struck a rock, and others that a swordfish had rammed her.

"The next day the big whale was seen swimming alongside again, and every attempt was made to get rid of him; but it was of no use. The men fired guns at him that took effect; they seared his sides with coals from the galley as he lay alongside on calm days, and filled the water with oil in desperate efforts to disgust and frighten him; but the whale never lost

sight of the ship until she sailed into the South American port and reached shallow water. When the ship was dry-docked her copper was scratched and colored by the whale and his breath, and the creature himself looked like a scarred veteran who had been through the wars.

"One of the steamers here has killed two whales out and out, and how many she has battered and laid up for repairs no one knows. You see, the channel is full of whales in the spring. They winter down in the Gulf of California and start north with their young in early summer, and find this a great feeding-ground. In May and June the channel is alive with jelly-fishes, great big fellows, nearly a foot across, and streamers from ten to twenty feet long, purple-colored and white. Looking over the side you can see dozens sometimes, and all the big whales have to do is to open their mouths wide and swim ahead half speed, and they just fill up on jelly and schools of small prey.

"The first whale was killed when the ship was bound from San Francisco. She was outside the heads when up came a big whale to blow, right in front of her. The captain gave the signal to stop and back, not knowing what it might do; but it was too late, she struck the whale amidships and just seemed to rise up on it, and then stopped. The wheel went over, so they say, and almost floored the man that had the spokes. The steamer was n't hurt a bit, but the whale was a wreck. The water was filled with blood, and the whale swam around in a circle beating the water with its tail; then it disappeared, and the steamer went on. A few days later the whale was sighted in

the kelp some five miles to the south. It was towed inshore and beached, and was visited by hundreds from all over. It had a deep gash in its side where the cutwater of the vessel had struck it. The whale was finally prepared and the skeleton placed on exhibition at Long Beach.

"Several years later the same steamer struck another whale. As before, she seemed to rise up onto the great body, cutting into it. The whale had come up to blow directly in front of her. This whale was also found later in the kelp beds. If there was a fleet of steamers in this channel you would hear of a lot of whales killed," concluded the man, "as they seem to take the hull of a ship for another whale of some kind and want to be pleasant, and so get hit."

Porpoises are common in the channel and can often be seen racing along; and at least one big kèller whale (*Orca ater*) is a familiar sight in summer.

Dolphins we found, but not often. I have seen but one taken in a number of years. Several species of seals abound, but are not common, the sea-lion being the seal referred to. As it is protected it becomes very tame.

Three large turtles are found in the channel: the great leather tortoise of all seas, with huge longitudinal ridges, and two smaller turtles — the California green, and California loggerhead turtles. These are very common along the Lower Californian coast where they nest and live. Those taken north are mere wanderers from the south.

The islands are remarkably free from noxious insects. Mosquitoes are not indigenous; fleas are present only where camps are neglected, unswept, and unwatered.

Miss Ada Skinner has described a new bee from Santa Catalina, naming it *Holicitus cataliniensis* — a big name for so small a creature, but doubtless it bears up under it. If bees and other animals have half the attributes ascribed to them by some ardent nature-writers they must be astonished to hear themselves called by name or made a "new species." Space does not permit even an enumeration of the interesting bugs, beetles, and insects of various kinds found here. The most interesting is the pinacate, that lumbers along the trail and when disturbed bombards you with a discharge that will demoralize a dog and leave a yellow stain upon the flesh.

The position of San Clemente and San Nicolas so far offshore puts them in the highway of many whales, and doubtless they are visited by various great sea animals which are not seen except by a few fishermen.

I have never seen a fishing-ground where there were so many large game fishes and so few sharks. At Aransas, Texas, and on the Florida Reef one is dodging sharks all the time, and many fishes are lost. Among these islands this is really the exception. Man-eating sharks are rarely, if ever, seen. The grouper sharks, of colossal length, are taken on the fishing-banks, but rarely disturb the reflections of anglers. Then they are taken on rod and reel, and the sport is legitimate here. The hammerhead is the common shark, though for seasons it may not be seen; again several will be taken. None of the sharks have the bulk of the Florida or tropical species; they are long and slender. The game shark of the islands is the bonito shark, a trim cavalier with the necessary speed to take these phantoms of the sea. He is a savage fellow. Mr. Sharpe

of Avalon took one several years ago with rod and reel which was over ten feet in length. This shark had an extraordinary set of teeth, yet it was brought to gaff with a tuna rod and a twenty-one-thread line.

The largest shark ever seen here was a basking shark, which must have been over thirty-five feet long. It was found in the channel and towed into Avalon by Mr. Murphy of the Tuna Club (a veteran of many battles) and Captain George Michaelis. This shark must have weighed many tons, and was a good mate for the gigantic sunfish caught by Captain George Farnsworth some years ago. This monster was eight or ten feet across and doubtless weighed over a ton. It could not be weighed at Avalon.

I caught a hammerhead off Avalon sixteen years ago that towed me out to sea until four or five boats fastened on, and even then it was with difficulty that they towed us in. This fish more than once nearly hauled my skiff under water, and I pulled it up to the boat, or the boat up to it, a dozen times in a tow of three miles; but every time I was forced to give line. I was playing it with a rope line. The fish had defied many boats, stealing bait. Before I hooked it it was swimming along complacently. The secret was that the shark had just come in from the open sea and was ravenous, hence afraid of nothing. If I remember rightly it was about nine feet in length; much larger specimens have been taken since. In Florida I have taken sharks, of course with assistance, thirteen or fourteen feet long and of enormous bulk.

Shark-fishing is a legitimate sport as carried on properly. Very large sharks can be killed with rod and reel, as Mr. Conn, Mr. Sharpe, Mr. Murphy, and

others of the Tuna Club have demonstrated. There is a leaping shark at Santa Catalina, which affords good sport, and I have seen the bonito shark fling itself five feet into the air. Interesting shark-fishing can be had at the head of Catalina Harbor in July and August. This fish is a beautifully marbled oil-shark. I have taken specimens weighing over sixty pounds with a light rod and had them jump several feet, and many times. This was all beach fishing. The bait, a large fish or several pounds of fish, was towed out into the channel and dropped, and when the strike came the fish played up and down the beach.

Large rays are frequently taken at the various islands, and several years ago a big manta was reported as having been seen off Santa Barbara in the channel, where the fishing is often fast and furious. Harry Elms, an old resident of Avalon, once told me that he thought he saw one in the Santa Catalina Channel, but one has never been taken there.

I have recently received word from Mr. C. G. Conn, cruising in his yacht *Comfort* in the Gulf of California, to the effect that he has succeeded in taking a large sea bat or ray, which is the record, being twenty-four feet long, twenty feet wide, and weighing 2652 pounds, or over a ton. Mr. Conn says:

"Herewith please find some photographs of a big sea bat we caught at San Lucas Bay. It was a great fight. Murphy witnessed the conflict and says it was better than a three-ring circus. We used a thirty-gallon barrel for a buoy to keep the fish from going to sea or from sinking to great depths. The buoy was fastened to about one hundred and fifty feet of rope, the other end of which was bent onto the staff of a harpoon.

I struck two of these bats and lost them before fastening onto the big one we captured. As the skiff was backed up to the fish by Farnsworth, it seemed as if I was about to plunge the harpoon into a floating island. The harpoon struck the bat just back of the hump on its back, which proved on investigation to be its vulnerable part. Gracious! how the water flew when the fish started on its first rush. It towed both the skiff and the barrel at express-train speed. The launch, which was following us, seemed to stand still, so rapidly were we dragged through the water. The bat circled, dove to the bottom, and tried all the stunts it could command to break loose; but we were there with both feet, and although at times we were drenched with water sent up in geysers by the big wings of the bat, we stood by it. At one time the 'critter' in its frenzy started for the skiff, threatening to demolish it. We looked for a ducking at least, but the thing dove under the boat, striking it with one of its big pectoral fins, or wings, and we escaped demolition. The buoy barrel was drawn under the skiff, and it is yet a mystery why it did not strike us a fearful blow, so rapidly was it ploughing the water.

"After about thirty minutes of this sort of a fight we saw that it would be impossible to kill the bat single-handed, and the launch was sent for the *Comfort* and for another harpoon. When the launch returned one of its occupants threw the harpoon into the bat, and we then had two irons fast to it. Then came another fast ride and still fiercer fighting. But two boats and a barrel buoy were more than the bat could drag through the water for any great length of time, and after circling and fouling the three lines the bat sank to the bottom and defied our efforts to dislodge it. We pulled and pulled, and then pulled again, both with the launch engine and our arms, but we might as well have been hitched onto the moon, so far as our being able to lift the fish was concerned. We then sent the launch after the *Comfort*, and on her arrival on the scene of the conflict we hitched the harpoon lines to the *Comfort's* stern; and then came the tug of war. The fish finally had to give up and was slowly dragged to the beach where the free ends of the lines were passed on shore, and about twenty Mexicans and the *Comfort's* crew hauled the thing onto the

beach. The writer then ended the fight with his big rifle. Murphy says that at one time the bat raised its wings out of the water from four to six feet, and that when doing so it threw up such volumes of water that it was impossible to see the skiff in which Farnsworth and I were fighting the fish."

Swordfish of two species — *Xiphias* and *Tetrapturus mitsukurii* — abound here. The latter exceeds the tarpon as a leaper and a game fish. The exciting catches would make a volume if all were described; some of the records are as follows:

SWORDFISH CATCHES (*Tetrapturus*)

Season of 1909

		Pounds
Sept. 2	L. P. Streeter	113
Sept. 3	L. G. Murphy	141
Sept. 5	L. G. Murphy	163
Sept. 9	C. C. Perkins	146
Sept. 13	C. G. Conn	339
Sept. 13	G. W. Haight	188
Sept. 13	Geo. E. Pillsbury, Jr.	208
Sept. 18	Gifford Pinchot	180, 186

Average weight, 184.8 pounds.

CHAPTER XVII

LOS CORONADOS AND THE LOST ISLANDS

WHEN the early explorers came up the coast they sighted a singular group of mountain peaks rising from the water off what is now Coronado Beach, one of the attractive places in Southern California. They were named in honor of Coronado, who reached Arizona and New Mexico on one of the famous marches up the coast in search of the "seven cities of Cibola," which were, doubtless, Zuni or some of the towns or cities whose ruins dot the great mesas and buttes of these States. Cabrillo refers to the fact that the natives of California repeatedly spoke to his sailors about "bearded men" on horses, who were crossing the country far to the east. This demonstrated that the early coast Indians communicated by messengers with the tribes of the interior.

Juan de Fuca doubtless saw them, as did all the adventurers who followed him. Vizcaino visited the islands, and remained about the Coronados ten days, sailing from there to Santa Catalina, or Victoria, as Cabrillo named it. The Coronados are so barren that the explorers doubtless did not remain about them long, though the good fishing thereabouts may have attracted them. The islands are in Mexico, just over the line, though few know it. They rise out of the smooth sea, like drowned mountains, and are really

lofty peaks, as the water about them is very deep. There are three islands in the group, extending four and one-half miles in a west-northwest and east-southeast direction, about seven miles from shore. I have seen them from the summit of San Clemente, standing out with weird distinctness, when the wind was down and the heat had taken all the moisture from the air. The mirage lifted them high into the empyrean, distorted them so that they appeared like castles resting afloat on an azure sea.

The islands are three in number. The one to the northwest, known as Cortez, is four hundred and sixty-seven feet high; the one to the southeast is six hundred and seventy-two feet high. They are extremely rough and barren. One has an attractive little harbor where small boats find refuge; but the cliffs are steep, and hard climbing is necessary to reach the summit.

On the end of one the rocks have separated in a strange manner, possibly the result of an earthquake. The curious cracks are plainly seen in photographs, from a distance giving the appearance of stripes.

The islands are uninhabited and never have supported a continuous native population, but they are remarkable fishing-grounds. Surrounded by forests of kelp, they afford refuge for myriads of rock bass, sheepshead, and whitefish, while the great black sea bass affords famous sport for the tourists who congregate at Coronado Beach very nearly opposite and in plain view.

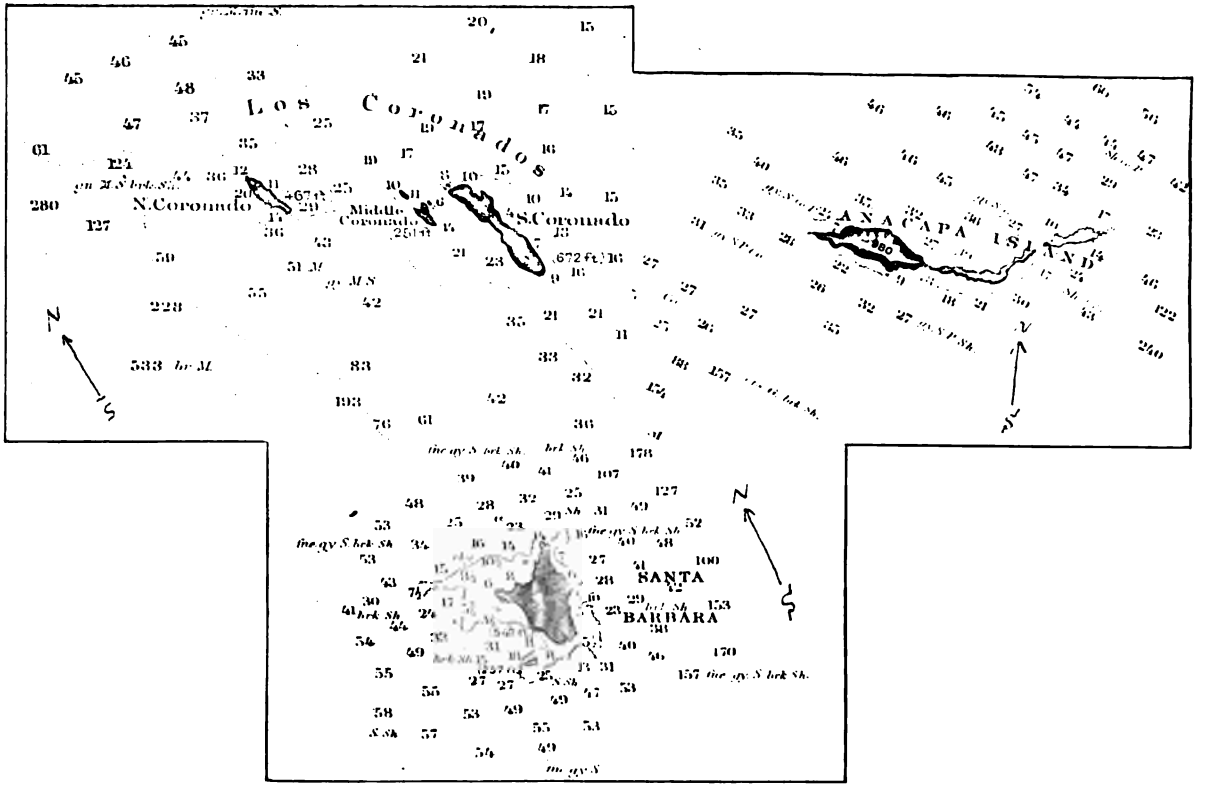
On the rocks, seals, sea-bears, sea-lions abound; and formerly sea elephants made the place their home;

while numerous birds breed here, including pelicans, gulls, and petrels.

The islands abound in cacti, the dreaded choya, and others. Formerly a few otter-hunters frequented the rocks for the skins they secured. The Japanese and Chinese have robbed the cliffs of tons of abalones (the *Haliotis* of science), the beautiful shells being sold by the ton and sent to Germany, where they are made into jewelry and curios and sent back to this country.

One cannot visit some of the Channel Islands, as San Nicolás and San Miguel, without being impressed by the fact that they are being blown into the sea, but whether this is true cannot be absolutely determined. Off to the west of the Coronados, nearer San Clemente, are two banks named after Cortez and Captain Tanner, U. S. N., which have aroused much speculation as "lost islands." Many a romance has been written with these banks as the foundation. Here it is supposed once stood a Pacific Atlantis. It is unfortunate to have to destroy so alluring a tale, but the stories of cities and ruins seen down through the clear waters are pure fiction. The only population of the bank is a remarkable variety of fishes, winter and summer; indeed the Atlantis of Cortez and the Bank of Tanner doubtless are the winter homes of many of the summer fishes of the inshore islands.

Tanner Bank, called the "lost island," covers an area of about fifteen miles in a west-northwest and south-southeasterly direction, and is about four miles wide. Its shallowest portion comes to within about one hundred and sixty feet of the surface and there is deep water all about it equalling two-thirds of a mile in some places, showing that here is a virtual mountain



MAPS OF LOS CORONADOS, ANACAPA ISLAND, AND SANTA BARBARA ISLAND

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of the sea. It can be found readily by yachtsmen and fishermen, the northwestern end lying about twenty-seven miles 164° true (s.s.e. ¾ e. mag.) from the eastern end of San Nicolás Island, and about thirty-seven miles 247° true (s.w. ⅝ w. mag.) from the northern end of San Clemente Island.

Cortez Bank, which lies to the south, is the real "lost island," as this submerged mountain rises from water over half a mile deep to within fifteen feet of the surface, and has an area of about twenty-five miles long and eight miles wide.

At some points the depth is six hundred feet, but the shallow portion is over Bishop's Rock at the southern portion of the bank. The south end of the bank lies about thirty-eight miles south-southwest from the south end of San Clemente Island. The exact direction may be found in the "U. S. Coast Pilot."

Bishop's Rock, which is the summit of this mountain of the sea, or the remains of a lost island, has but fifteen feet of water over it; even in smooth weather the sea breaks, while in rough weather the summit is a mass of foam.

For several miles west of the rock there is from fifty to seventy feet of water on which is often a heavy ground swell. In almost any civilized country such a menace would have a buoy or a lighthouse or something to warn the mariner, but Bishop's Rock is only charted, and how many galleons of old times or ships of modern days have gone down on the lost island it would be difficult to tell. On very smooth days the bottom shows rocks covered with richly colored weeds, waving in the curious currents which sweep in and about the summit seemingly without rhyme or reason.

"The Coast Pilot" says: "Navigators should exercise great caution when in this vicinity." Navigators will doubtless give it a wide berth. The latitude is 32° 25′ north; longitude 119° 07′ west.

The oceanic rivers here and about the east end of San Clemente are extraordinarily fickle. I have seen the current stop suddenly when it had been running two miles an hour, and soon begin to run in the opposite direction; and fishermen tell strange tales of the currents of the Banks of Tanner and Cortez where old bells are said to toll on stormy nights, and weird craft are seen sailing across the shallows. Now and then some one describes the walls and towers of a city some one has seen on Cortez. They trace battlements and bastions, as Lowell traces canals on Mars, but no one else can see them. Yet there is a fascination in dreaming dreams awake of some ancient city that once stood here, and that in a single big throe of the earth was wiped out of existence and is now the abode of fishes and smothered in the forests of winding kelp. There are many phenomena of the sea that seem mysterious and unaccountable in the absence of knowledge.

Some years ago I was coming in from San Nicolás Island in the large yacht of a friend. It was a dead calm when we made Santa Barbara Island, and the sea was as smooth as glass. Suddenly we ran into a ground swell — quite the most extraordinary exhibition I had ever seen in blue water, and I have been at sea in all kinds of weather, from a West Indian hurricane to a "herd" of water spouts.

We ran into it without warning, and as the big rollers came up astern they looked like mountains, and the impact was almost sufficient to have jerked the masts

out of a poorly equipped vessel. There was not a breath of wind, yet these extraordinary waves came piling after us for twenty minutes, when we ran out of them. If any one of them had broken, it certainly would have played havoc with the yacht. The worst cyclone I ever saw nearly dismasted the frigate *Dale*, upon which I was a midshipman. I never saw so high or so menacing a sea; I attributed it in my ignorance to an earthquake, but when we reached Avalon no one had felt a shock, and for a long time it was a mystery. One day I glanced at a chart, and on that identical spot was the summit of a submarine mountain, the lava peak ranging from twenty-six to seventy fathoms below the surface and covering a large area, rising out of water half a mile deep. It was named "Osborne Bank," and the big waves were occasioned by the currents and conflicting tides about this "lost island" lying unsuspected below us.

I related this incident to the captain of the *Cabrillo*, the steamer plying between Los Angeles and Avalon, which suggested strange experiences at sea. The captain told me that when sailing from China to San Francisco, one night, suddenly and without warning the man at the wheel saw the compass climb entirely around at a rapid rate. The ship was taken aback and thrown into irons, but she screwed entirely around, to the amazement, not to say terror, of the crew. This was doubtless a whirlpool in the ocean, a maelstrom in the Pacific.

Less than five miles from Bishop's Rock on the Cortez Bank the ocean is nearly a mile deep. So the two "lost islands" are really sharp pinnacles rising like needles from the deep sea. Whether these lost islands

were ever above the surface is difficult to tell. A slight submergence of the California coast-line here would make San Pedro Hill an island, while a minimum elevation of one hundred and seventy-five feet of the coast-line, according to Smith, would make Tanner, Cortez, and Osborne Banks islands.

In ages past, and by this is meant millions of years ago, all this region was pushed up and depressed time and again. The terraces of San Clemente are marvellous pages in the diary of the ages, showing beach after beach raised into the air. With this, possibly, came Tanner and Cortez, until they rose above the surface, only to be beaten down and blown and washed away.

Regarding the banks of Tanner, Cortez, and Osborne, Dr. W. S. T. Smith, in his "Topographic Study of the Islands of Southern California," frequently referred to in this volume, says:

"As shown by the soundings, these banks exhibit character identical with those of the upper submerged platform. They are more or less platform-like in character, and at an average depth corresponding to that of the submarine platform, and the descent beyond the six-hundred-foot contour is generally rapid. There can be little doubt, therefore, that these banks were islands only a short time ago, geographically speaking, and that they have been completely truncated by wave action during the most recent stages of marine abrasion."

CHAPTER XVIII

ASHORE AT THE WRONG TIME

IT would be difficult to convince the average mortal that he was really having hard luck when catching a nine-and-three-quarter-pound trout in a region a little short of perfect, — a mountain paradise; yet if my friend Beebe and I had been at Santa Catalina in 1907 instead of at Pelican Bay, on the Upper Klamath, we would still have had good trout records, and have added to our experience the play of a rare tuna, which took an unfair advantage of the fact that we were absent, and afforded remarkable sport to members of the Tuna Club, and many more. The big rainbow hangs on the wall of the Tuna Club, and I have never caught a yellow-fin; but when I hear any one expressing surprise, I lead him up to the big rainbow, which is as long as some yellowtails, and ask him if he has ever taken a rainbow trout as large as that, and which he would rather take.

The facts are that while Mr. Beebe and I were at Pelican Bay, Oregon, there appeared at Los Coronados and Santa Catalina a new fish, — according to Dr. David Starr Jordan, at least new to America, — a splendid fish running up to seventy pounds, which the boatmen called the "yellow-fin tuna"; a true tuna, which afforded far easier sport than the big leaping tuna.

If I had not been trout-fishing I could have participated in this fine sport; but, on the other hand, one does not take a nine-and-three-quarter-pound rainbow trout (in the presence of witnesses) every day; so one is on the horns of a dilemma. It is very evident that if you turn your back on sea-angling for a summer something extraordinary happens; and if you are sea-angling, some one is taking giant trout. But once did I strike a happy combination, and that was on the Soquel, in California. One day I fished this charming stream for trout; the next day I drove to the Bay of Monterey, five miles distant, and trolled for sea salmon and white sea bass, and caught them, too. But which has the greater charm?—there's the rub. If pressed for a reply I should say that the sports are entirely different; there is no comparison between them. It would be manifestly unfair to say that one exceeds the other in charm. In one you have the forests of the shore, the running brooks; on the other, you are floating over the marvellous forests of the great Kuro Shiwo, or the Gulf Stream, and if I *must* choose I take them both; one, for the strenuous life, for the riotous play to the finish with the big and exciting game, tuna or tarpon, wild, bucking steeds of the sea; the other, for its calm, pastoral delights, its gentle melodies of running waters, and sighing pine needles.

When the Sicilian tuna fishermen hear that the big tunas are passing the Balearic Isles in May they hasten to the shrine of St. Sebastian, to give thanks and offerings for what they term the "tuna of arrival," for you must know the tuna is as uncertain in the Adriatic as in California. In July, if the gods are propitious, the fishermen off the coast of Southern Spain find

them near Gibraltar, where they are called the "tuna of return."

The "tuna of arrival" and of "return" are as eagerly looked for on the California coast. It is true, we do not make votive offerings at the shrine of St. Sebastian, as St. Zeno is the patron saint of the California rod fisherman, and the god Isabu of the rod man of Japan; neither do we hunt for them with nets miles in extent, and herd them like sheep, after the fashion of the Venetians, the Basques, the Sicilians, and even the Greeks, as here we are altogether too rich to care for tuna *ragout*. Pompano and striped bass are good enough for the American, and the tuna is too valuable to be given over to mere trade; it is reserved for the angler, the man with delicate rod and a thousand feet of line, consummate skill, and physical strength, who comes from any one of the four quarters of the earth to win a little blue button and acquire fame and merit among the disciples of Saints Zeno and Isabu.

The "tuna of arrival" is most in favor along the Californias when he does arrive; and the "tuna of return," which is not so large, affords much more sport. The tuna is justly famous. He plays havoc all over the world, up and down which he wanders; the globe-trotter of the fins, a merciless devastator, a "sunderer of companies," rods, lines, and tackle in general.

The tuna, like Gaul, may be divided into several parts. There is the long-finned tuna, a game fellow with us nearly all the time; the yellow-fin, here at times, but mostly, it is said, at Japan or off Mauna Loa and thereabouts — still under the American flag,

but a little out of the way. Then there is the leaping tuna, who, when he is at all, is the "tuna of arrival," and of mighty size, ranging upward to half a ton in weight.

All these three tunas doubtless breed or spawn in the deep Santa Catalina Channel, California; and all have the same name — *Thunnus* — with certain specific differences. Thus, the tuna with the very long side fins is *T. alalonga;* the giant tuna, *T. thynnus;* and the one with golden or lemon-tinted fins is *T. maculatus;* big names, it must be conceded, but then they are given to big fishes which rank at the top of the list of the great game fishes of the world, on whose arms are emblazoned the winged victories, and whose crest is a fish *rampant.*

The "tunas of arrival" or of "return" are in a sense the masters of the sea. Big, powerful, rapacious, they owe allegiance to none except the sharks; and the latter capture them only when great schools are massed, and the white man-eater or the bonito-slayer charges into them blindly or catches one in the toils on a line. As the tuna and its movements are one of the mysteries of the Balearic Isles, Messina, and the waters in the shadow of the Maritime Alps, so the sojourners of the Pacific or California islands are an enigma to the oldest *habitué* of the deep blue waters.

In July, 1907, the "tuna of arrival" was reported in the Santa Catalina Channel some miles east of the Cortez Bank and ten or twelve miles offshore. It was made up of a vast school of yellow-fins ranging in size from thirty to seventy or more pounds, which tinted the water a golden hue. They were headed north, and covered an area of several hundred acres. Where

they came from, how long they had been in coming, no one knew; but they were starving, of that there was little doubt, as they rushed at bait of any sort, and entirely lacked the diplomacy, indeed marvellous cunning, which seems to be a common attribute of the yellow-fin of "return." The school was mainly of the yellow-fin variety (*T. maculata*), but on the outskirts, and doubtless deeper down, were hordes of long-finned tuna (*Thunnus alalonga*), their purple and vivid turquoise vestments presenting a marked, indeed striking, contrast to the green and gold of the yellow-fins which were at least twice as large. The long-fins averaged seventeen pounds, running up to forty; while the yellow-fins were all over forty, and big fellows of seventy and eighty pounds were common.

These tunas were hunting food, and when they struck a school of sardines or flying-fishes they charged them *en masse*. The scene was a marvellous one; the sea being beaten into foam, and the air filled with the forms of leaping and flying fishes. One might suppose from watching the school that the tunas were masters of the situation, but the deep blue water concealed other tragedies. Hanging on the outer edge of the great school, and lurking beneath it, was a band of desperate hulking villains, — sharks of several varieties, — hammerheads, white-finned man-eaters, lance-toothed bonito sharks, and others, lurching along, like wolves preying upon sheep. These sharks were a constant menace to the school. They picked up the stragglers, kept the main body in rigid lines, and when particularly hungry dashed madly into it, seizing everything that came in their way.

The peculiar nature of the appetite of these hunters

was emphasized by a number of anglers, including Mr. Strafford of Pasadena, who in a sea-going launch were haunting the clear, smooth waters off the southwest lee of the Government island of San Clemente, near Coronado. They were trolling, with two rods out, one to starboard, and one to port, when, without warning, they came upon the school of yellow-fin tunas, whose vast numbers made a strange tide rip. There was no waiting. *Ze-e-e-e-e!* went the reels, and one hundred, two hundred feet of line went screaming, hissing downward; and the two men held their resilient rods, which bent and swayed in their hands like reeds shaken by a wind. The rush was magnificent for about twenty seconds, then came a lull, deadly and ominously sudden, and two men reeled in their lines as a shark, certainly fifteen feet in length, rose and shook a big yellow-fin tuna literally in their faces. The sun flashed on it for a second, then the blue waters, now dyed a deep incarnadine, subsided.

The onslaught of the shark drove the school several hundred yards away, where it was again picked up, and as soon as the sardine bait crossed it a tuna was hooked. Indeed, the fishes fought for it, boiling along the surface, the victor dashing down to the measure of the singing reel; but the moment the fish left the school and entered the region below, two or three hulking big sharks darted ahead, and up into the air went the tuna quivering in the light, its Midas-like tints flashing, to fall back into the jaws of the shark. This time the shark swallowed the tuna, hook and all, and the angler, in fierce disgust, out of patience, struck, and struck hard.

For a moment the line did not move, then it cut the water like a knife, causing a sharp hissing sound, while the reel screamed and the rod bent like a tree in a cyclone, the angler vainly pressing his thumb on the brake. The boatman, recognizing the situation, turned on the power, and in a moment the launch was racing after the big game trying to save the line. Any one who has played a fish of over two hundred pounds, with rod and reel, well knows the futility of such an attempt, and the feeling of helplessness which comes over the angler when the line is racing, screaming, out, and the force is seemingly irresistible.

In a few moments the launch caught up or succeeded in getting sufficient headway to enable the angler to stop the rush of line, and then came the struggle. The tackle was a typical old-fashioned tuna rod of sixteen ounces and a twenty-one-thread line tested to a breaking strain of forty-two pounds, and there was necessity for caution. The strain was terrific, and the rod more than once seemed on the point of buckling. The shark was boring down into the sea, which practically had no bottom, and as it felt the strong hand of the angler it began a long, sweeping, rising side rush, which brought it to the surface two hundred feet away, where it lashed about tossing the spray in air, then surged on in a great circle.

It was now the angler's time, his hour, his minute, and he worked at the big reel, taking in the line, the launch meanwhile running in a smaller circle and coming nearer the big game, which was manifestly worried and winded by the strange strain upon it. Time after time, the shark circled the boat, and at last the boatman picked up the long gaff, holding it

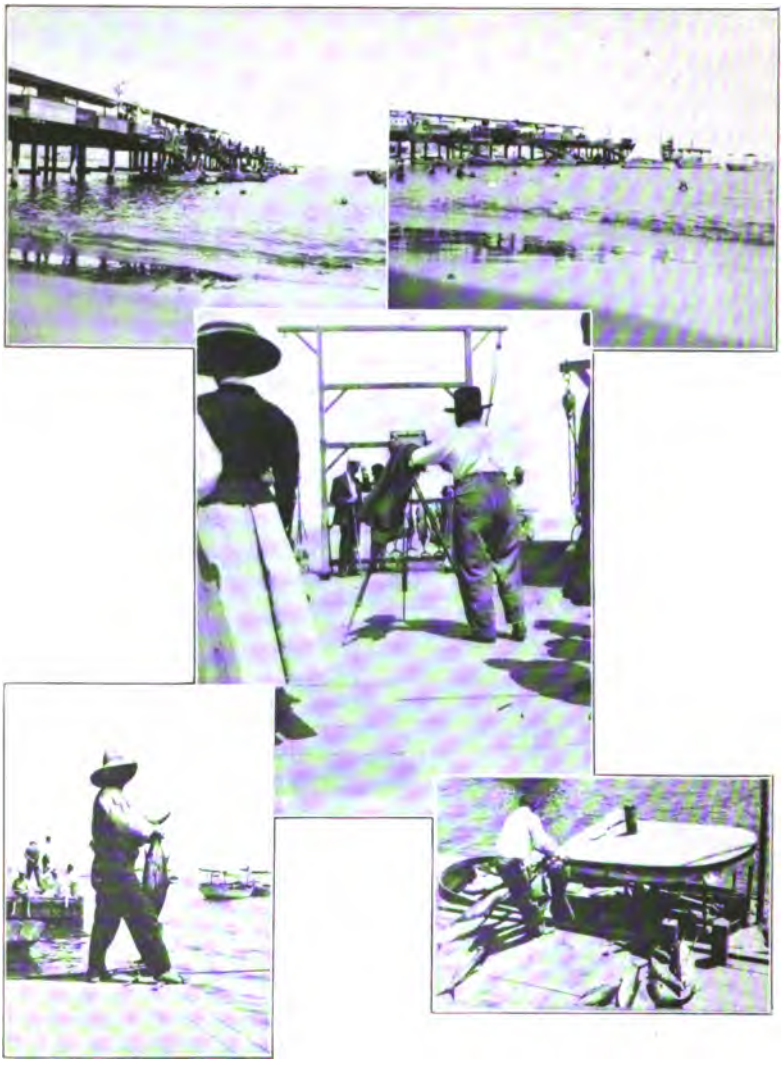
in his right hand, managing the wheel with his left. "Now then!" cried the angler, as with a supreme effort he stopped the shark. The gaff slipped under the ugly jaw; the man lay back as the big tail came around, sending spray and masses of water at them; held with all his strength while the monster tuna-killer rolled over and over in its agony, rolled and struck, snapping like a bull-dog. The gaffer gradually hauled it up, having stopped the engine,—held it with one hand, and with the other gave the tuna-killer its quietus with a sharp knife, ending the long and difficult catch with a sixteen-ounce rod and a twenty-one-thread line.

By this time the school of tunas had moved a mile north, and had evidently spread out, making the danger from sharks much less. That this was true was soon shown, as the line, a number nine, now tossed over, stiffened out almost at the start, and the lithe resilient nine-ounce rod bent and bowed as the angler gave the tuna the butt, then straightened up as he released the pressure on his thumb pad. The boatman meantime turned the launch after the flying fish, endeavoring to stop it before it carried off all the nine hundred feet of line.

Almost invariably the leaping tuna will plunge to the bottom when hooked in deep water, and this initial rush is often so tremendous that it is entirely irresistible; but the yellow-fin, the "tuna of arrival" (for he is a very late arrival on these happy angling grounds), very frequently disdains this common route to the region of broken tackle and makes a clean rush away upon the surface,—a performance that is in every sense a "sunderer of companies," the fish at times

TUNA CLUB LIGHT-TACKLE EXPERTS

Gaffing the yellowtail (first and last pictures) — Lieut. Patton landing a yellowtail (over twenty pounds) with six-ounce rod — Lieut. George S. Patton, Mr. Shaver, and Mr. Warren playing thirty-pound long-finned tunas on 3-6 tackle — Mr. Ormsby Phillips playing twenty-five-pound yellowtail with 3-6 tackle



SCENES IN AVALON BAY

The boatmen's pier — Photographing a catch — Mexican Joe — Throwing out the long-finned tunas

making a rush that unreels the longest line. But there was no such hysterical play; the launch was under full speed before all the line was unreeled, and so enabled the angler to press his thumb brake or stall upon the thread-like line and slowly bring the fish down, stop the reel, and accomplish that miracle of angling — the towing of a boat by a threadlike line.

To see a one-hundred-and-eighty-pound tuna, six feet long, tow about a boat with two men for four hours, by a twenty-one-thread line with a breaking strain tested to forty-two pounds, is seemingly the impossible, but it is not uncommon in tuna-fishing after the boat has been gotten under way. For a tuna to start a boat with such a line would be impossible, but once under way, either by oars or engine, it is an easy matter. A single man cannot start a car on a track, but after it is started he can push it for miles.

The tuna swam on, boring away on the surface. The launch steamed after it, the angler reeling when he could; now losing ten or twenty feet as the splendid fish gained. Keyed up to the highest pitch of excitement, the angler sat holding the light rod, which trembled and bent to the danger-point under the fierce rushes; now feeling that he had the advantage, now in despair as the fish plunged down into the blue water, yet all the while he was working to bring it up. He watched intently for the gleam of gold and silver, then reeled with all his strength as the great game came surging up out of the depth to course along the surface again, gleaming in golden glints as the sun struck it, to swerve to right or left, as fear suggested, to be fought at last to a standstill by the delicate line.

All this time the angler had expected to see a shark dash at the game and take it, but the luck was all the other way, and the yellow-fin, always a gallant fighter, came slowly to the gaff and was lifted in to receive its quietus just an hour and a quarter from the time it was hooked.

The great tuna, *Thunnus thynnus*, is a noble fish as seen in its native element, swimming at the head of an angle of solid compact fishes, after the fashion of geese; but its cousin, this *Thunnus maculatus*, the tuna of the yellow fin, of the lemon hues, is more attractive, more social. It has the habit of the albacore or the long-fin, and bonito, and consorts with them, rather than with the big tuna; and among the most beautiful visions it has been my good fortune to see, is that of this yellow-fin in the Santa Catalina Channel of Southern California, playing about the boat. During the summer of 1906 hundreds were taken with rod and reel, but in September, 1907, I fished and fished again for them, as did others; but few were taken, and I failed to obtain even a strike. If anything more exasperating than the action of these splendid and cunning fishes, which I place in the first rank of cleverness, has been seen (with perhaps the exception of the gray snapper), I have failed to learn it. We were in the launch of Mr. Thomas McDaniel Potter, in perfectly smooth water, so clear that one seemed to be looking down into the very heart of a blue tourmaline, and the most delicate and diaphanous forms could be seen fifty or sixty feet below.

This tuna, as are others, is often taken by trolling, but the yellow-fin is a social fellow; he hovers about somewhere below and can be taken by casting from the

boat—so the operation can be observed. And this is the method we employed. Our boatman let the launch drift, occasionally tossing over a handful of sardines or chum at which a band of fishes of gorgeous hues — blue and yellow and silver predominating — charged, rising, seemingly, from the eternal deeps. There were, first, the bonitos, the real humming-birds of the sea, and from these flashing gems one's bait had to be jerked else one would hook a ten or twelve-pound fish. Close behind came the albacores, with long side fins; oceanic tourmalines of the tint the ocean is made of; ravenous, voracious, weighing possibly thirty pounds. From this tuna you must jerk your bait just as he snaps at it, as he is not the game of your choice, and remember, there are thirty or more of these fishes to avoid by constant jerking of the line.

But here is your game. Immediately after the albacore comes the "tuna of arrival." He ascends perhaps from the greater depths,— the personification of strength and dignity. With precision he picks up the silvery sardines within an inch of your lure, but never by so much as a move displays a desire to take it, though he is ravenous for the rest, and sails in and out, turning this way and that, always obtaining his share; then presto! he is gone with all the rest.

I saw this realistic scene, this nerve-racking (to the angler) performance day after day for several weeks, and in all that time I never saw a yellow-fin take a sardine which concealed a hook. They appeared to be absolutely fearless, and the spectacle of beautifully colored or tinted fishes, of thirty or fifty or more pounds

weight, moving about but a few feet distant, was one long to be remembered. The dominant feature, aside from their color, was dignity. The contrast with the albacores and bonitos was striking, and did not fail to make an impression upon all observers. At the time referred to, our launch was but one among many drifting about, curiously enough, all having the same luck with the yellow-fin.

This is an interesting illustration of the fickleness of fishes of this class. The leaping tuna is equally exasperating. I have moved over throngs of them; had them follow my boat; crossed their line of march with lures of the most enticing character, but all to no purpose. Even when they were biting they invariably stopped about August first; so suddenly this happened that it came in the nature of a shock. All of which suggests that angling, like many good things in life, requires patience for its complete accomplishment; and it can be said that this fine game fish deserves all the patience one may be forced to give it.

But the trouble with me was that when I was ashore the yellow-fins were biting and numbers were taken, and when I was out and ready for the fray they concluded not to bite — an illustration of fishermen's luck. Still there are compensations: I *may* some day lure a big yellow-fin with light tackle; and after all, hanging in the Tuna Club is the big nine-and-three-fourth-pound rainbow trout, which I submit is a compensation for being ashore at the wrong time.

The following are some of the record catches of the yellow-fin, made by Light Tackle Club members. Many more were taken by the Tuna Club:

LIGHT TACKLE CLUB—BRANCH OF TUNA CLUB, AVALON, CAL.

SEASON OF 1906

Gold Button Members and their Catches

NAME	RESIDENCE	DATE	SPECIES	WEIGHT
Butler, W. H.	Pasadena, Cal.	Oct. 1	Yellow-fin Tuna	48½ lbs.
Cotton, Mrs. H. H.	Los Angeles, Cal.	Aug. 27	"	55 "
Earlscliffe, H. St. A.	Santa Barbara, Cal.	Sept. 16	"	49 "
Eddy, A. J.	Pasadena, Cal.	Aug. 27	"	60 "
Epstein, Max	Dallas, Tex.	Sept. 21	"	49½ "
Hatfield, C. W.	Los Angeles, Cal.	Aug. 21	"	54 "
Kremer, F. J.	Los Angeles, Cal.	Sept. 30	"	47½ "
Pondstone, Jacob	Redlands, Cal.	Sept. 12	"	48 "
Potter, T. McD.	Los Angeles, Cal.	Aug. 29	"	55 "
Sharpe, Gilmore	Avalon, Cal.	Sept. 13	"	51 "
Streeter, L. P.	Pasadena, Cal.	Sept. 25	"	51½ "
Wilson, G. S.	Los Angeles, Cal.	Sept. 1	"	47 "

CHAPTER XIX

THE SAND-DUNES OF THE ISLANDS

AMONG the extraordinary features of the islands, and particularly of San Clemente and San Miguel, are the sand-dune sections, mysterious areas where pure sand of the most elusive and subtle character seem to have taken possession of the island. Approaching Howland's on the west end, one sees, about two hundred yards north of it, on the face of a bluff, a white arrow-shaped object very conspicuous against the cactus-covered bluff. This is a little landmark, a diminutive sand-dune which the wind plays on so delicately, and it is so mathematically adjusted, that it has to my knowledge never materially increased or diminished since I first saw it twenty years ago. It still stands as a beacon to the mariner, seeking the often forbidding shores of San Clemente.

The sand-dunes are found a mile or two north of Howland's at the Isthmus and on the northwest shore, presenting from the ocean a white line just above the rocks. There is no sandy beach for the sand to blow up from, no stated supply, as it were; yet here, conjured by the winds that eternally come in from the deep sea, the dunes play an extraordinary part in what might be called the life of the island, as they move, change, come and go, as if possessed of some weird personality.

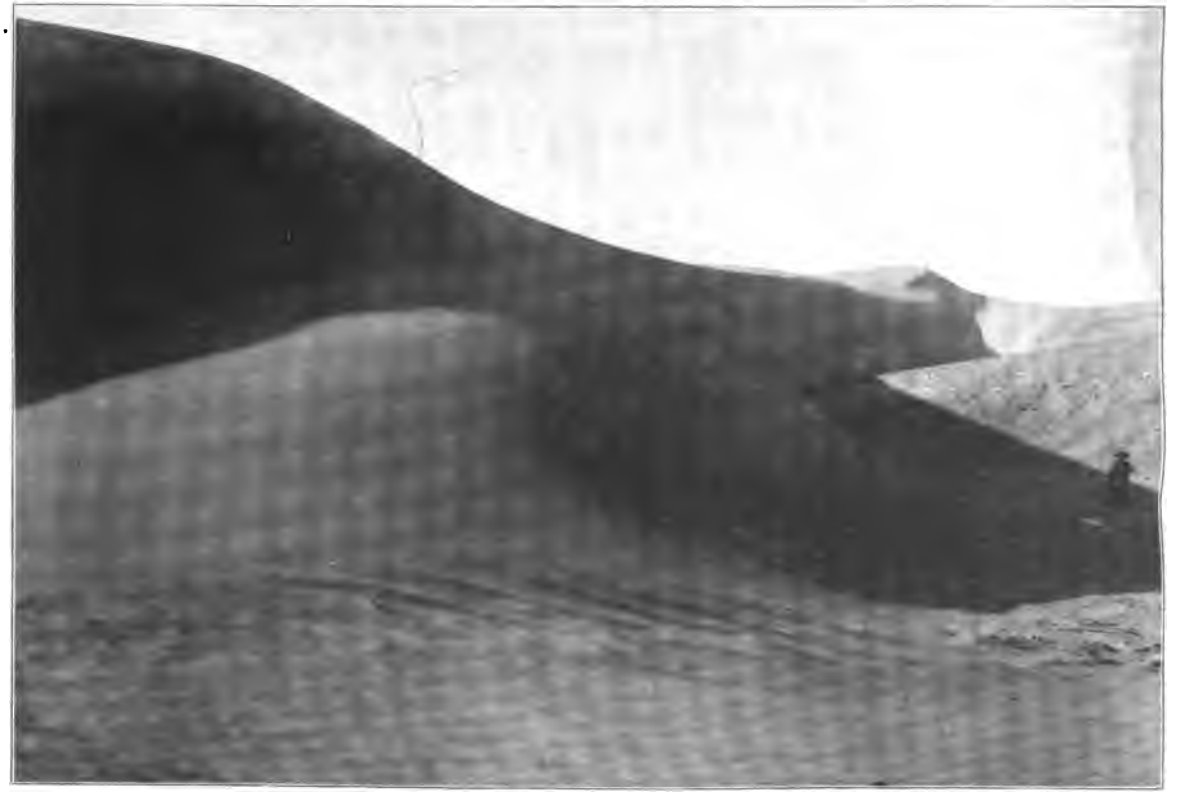
I well recall my first visit to the sand-dunes. We were in camp at Howland's, then the home of one Gallagher, hermit and herder who with Mexican Joe had lived on the island many years. I rode up the cañon and went down from the divide to the clear white sand. Where it came from was a mystery, but I fancy it was made there. The wind, which blows heavily almost every day, had blown away the light portions and left the sand clear and beautiful. As I rode out to the dunes I found they were moulded into long graceful lines, gentle slopes of two or three hundred yards or feet, as smooth as if thousands of planers had worked at them for ages and made them perfect. The hand of man could not have produced such harmonious carving, such glorious symmetry. My horse's hoofs rang on a crust as I rode over them, the delicate hardening being due, perhaps, to salt. Everywhere, scattered like stars, were bleached snail shells lying entirely on the surface. Riding on, I came to what had been a cañon two or three hundred feet deep, but the sand had reversed the action of a glacier, had flowed up instead of down, filling it from brim to brim, and at a distance the resemblance to a glacier was perfect.

The sand had flowed up from no man's land; but in places the caprice of the wind displayed itself in a singular and subtle manner. Suddenly I came upon a cone cut out by the wind in so perfect a manner that I could imagine that a great top had been screwed down into the sand, then lifted out by some mighty hand, leaving the perfect cone. At the bottom was a solitary bush or tree, once a verdant living thing, buried and unburied countless times, and now coated with

lime or silica. The impulse to jump and slide down the incline was irresistible. Dismounting, leaving my doubtless amazed horse the only spectator of my madness, I ran to the brim, leaped as far as I could, struck the side twenty feet below, and tobogganed to the bottom; then I had a good climb to reach the summit. Perhaps you have seen the trap of the little insect known as the ant-lion (*Myrmeleon*), common almost everywhere. It stations itself at the bottom of a cone half or quarter of an inch across, and throws out the sand, I believe with its tail, until a cone is the result, then waits for a reckless ant to topple in. This strange depression in the sand-dunes was a perfect cone, as of some giant ant-lion; as I stood at the top I imagined myself the victim about to slide into the trap.

These sand-dunes, as they are nothing but sand where the witchery of the wind is shown, may be passed by as mere sand, but they deserve the close attention of the lover of nature. One day, lying in a little cove on the northeast of San Clemente, I saw falls of sand flowing over from the dune above, dropping silently to the beach below. My companions, Gifford Pinchot and Governor Pardee, swam in from the yacht, and I saw them under the fall sliding down the diminutive dune below the fall where the wind had carved the pile into a beautiful shape, leaving a deep depression behind. I know they saw the beauty of the sand and may have experienced the irresistible boyish desire to slide down the dune.

The action of sand under the influence of the wind can be observed from Cape Cod to Cape Florida, the stretch of white beaches being almost unbroken all



THE SAND-DUNES OF SAN CLEMENTE

THE SURFACE OF A SAN CLEMENTE SAND-DUNE, COVERED WITH SMALL SNAIL SHELLS

down the coast. On the upper cape the sand with its movements has determined the very life of the people. It has shaped the singular arm out into the sea. It forms and re-forms hills, builds up breast-works to battle against the sea, and has a mysterious way of reaching out in direct opposition to the waves. This is particularly noticeable on San Nicolás Island, where a small Cape Cod, half a mile in length, has been projected out into the wildest sea, like the feeler of a gigantic octopus, and, due to the continuous wind, has held its own for centuries.

The sand-dunes of the coast have much to do with its character; they make or remake it. At Mayport, Florida, the sand is so persistent that if a fisherman goes on a visit and leaves his shanty unprotected it is liable to be covered on his return. I saw a mound fifteen feet in height which contained one of these homes. Boats are sometimes covered in this way, lost, and forgotten. In the morning the matrons sweep sand from their doorsteps, and the men shovel it away like snow.

One of the most remarkable illustrations of the action of sand is seen at the island of San Miguel, the most northwestern of the Santa Barbara Channel Islands. It is a wind-swept place, in a continual wind and fog centre, and has no permanent inhabitants save a few herders. The wild winds that come in from the west toss the sand into the air like living things, and clouds, wraiths, go whirling about, borne upward, to drop like snow upon the waters. Cabrillo, the Spanish adventurer — who died and, it is said, was buried here — may lie beneath these dunes. At that time the island was covered with verdure, trees,

and brush, as are portions of it to-day, but the sand rivers in the course of years have encroached upon it and reduced former productive areas to the state of a mere desert.

Not many years ago the region around San Miguel's best harbor was covered with brush and verdure, and when the winter rains fell, it was changed into a garden of green and wild flowers; but to-day it presents a most desolate appearance, and those who land have to wade through the deep sand that is ever piling up and is destined to fill the harbor or reduce it to a shallow. Some time ago a schooner was thrown ashore on the beach, and to show the remarkable advance of the sand, the vessel is now some distance inland and nearly covered by the insidious sand. It has covered the deck, run down into the hold, partly filled the craft, so that from a distance she appears to be riding on a sea of sand, hard, white, desolate, and relentless.

All about, as far as the eye can reach, sand is coming down from the hills or going up, covering the rocks and gullies, sweeping into cañons, covering the hill-tops, and forming vast slopes by which one can slide from the summit of a hill fairly into the bay. As a picture of desolation and the rapid movement of sand, this place perhaps has no equal. The sand works almost exactly like snow, the slightest obstacle being an excuse for piling up; and along the beach are seen a succession of sand waves, in some instances so high that the walker is lost to sight as he moves slowly along. No better locality could be imagined than this great amphitheatre of sand, to observe the action of the wind, which at one spot

carries the sand up a steep slope, and not far away lets it pour down.

The advance of sand is often subtle and unobserved. Even when the wind is low it is moving along; and by lying down on the dune one may see it coming along the surface in well-defined streams. I noticed this particularly on one of the islands of the outer Texan coast, where the sand rivers in thousands of courses were blowing a distance of a mile or more from the gulf across the flat to the inner bay. They moved at about the rate that a man could walk, were incessant, and had been for centuries; yet the islands retained about the same shape: the loss of sand was equal to the supply.

In 1909 Major Frederick R. Burnham and I visited the sand-dunes of the delta of the Yaqui in the Gulf of California, or Sea of Cortez, as it should be called, and far out on an island we crossed the dunes and came suddenly, in their very heart, upon a radiant arm of the sea as placid as a lake. I named it after my famous companion, Lake Burnham. All about were peace and absolute desolation, but from far away came the musical roar of the distant sea, piling in before the winds that had carved these dunes into things of beauty and grace.

The sand-dunes of San Nicolás are a story in themselves. They cover and uncover the dead; they fill cañons, form strange shapes which float in the air before they are carried away. They are eternally moving and playing, like ghostly rivers, about the dying island, as if the wind and sand were engaged in deadly conflict, a fight to the death. Nowhere have I seen mere sand twisted and tossed into the air so

strangely. But I may except one place — the Valley of Cochise in Arizona, down which gigantic dust-spouts seem to pass constantly out upon a lake of dreams. Here indeed the sand-dune lives and has come into its own.

CHAPTER XX

GARDENS OF THE SEA

THE Channel Islands, especially Santa Catalina and Santa Cruz, have been treasure-houses for botanists, as here are found many plants peculiar to the big mountain tops rising from the sea, and many more that are rare and indigenous to the islands strung along the coast.

When the eastern country is fast in the grip of winter, when the country to the north and east is ravished by gales, frost, ice, and snow, the Channel Islands are isles of summer, gardens of the sea. I have seen in February the little tilted mesas of the cañon back of Avalon glowing in a golden vestment, and found it dotted with yellow violets, now run out, as their home is part of a modern golf links. I have seen the slopes of deep cañons quivering with lavender, due to the island Mariposa lily (*Calochortus*); and near Christmas, when the vision is filled with pictures of snow and ice, the islands of Santa Catalina, San Clemente, and others, in certain localities seem to glow with a deep red, colored by masses of "holly," — not a holly at all, but the attractive red berry clusters of heteromeles, — that blaze over acres of chaparral on the island slopes.

No fairer picture can be imagined than Santa Catalina or Santa Cruz in midwinter as one floats along the water, whose blue defies description: then to land

and climb the height of Orizaba, or the hills at Avalon, and from a sea of incarnadine look out on the ocean of sapphire. Far away is the mainland, the high Sierra Madre, the hanging mountains, for the great snow-capped peaks seem crystals from which banners and snow flurries drift off over the valleys of eternal summer like genii of the ice battling with and absorbed by the genii of heat. At such times the angler may wish he were a botanist, that he might take in all the beauties of the plant life of these islands. Some of them have plants peculiar to themselves; and though at first glance they appear barren, treeless, bushless, a maximum rain is like a magic wand converting the dreary and rocky slopes into verdant glades. Even on forsaken San Nicolás, radiant flowers grow, fighting the fierce wind that threatens to wipe them from the very earth.

The angler who does nothing but fish at the islands, and who supposes that this is the sole attraction, loses the essence of the charm of these isles of summer. To enter really into the full enjoyment of the region, one should leave the haunts of men and wander off into the deep cañons with some sympathetic companion; go on a trip of discovery; hunt out the little bays at the mouths of the cañons, the nooks and corners of verdure, the groves of stunted oak and of cottonwood, the dense thickets of adenostoma, the diminutive forests of cactus, and the wild rocky slopes of the mountains.*

* Strangers not accustomed to mountains and cañons should not attempt this without a guide; every year men and women are lost here, and it is a sore grievance for the boatmen of Avalon to haul them out of cañons and up from precipices. Mountain-climbing is for mountain-climbers; those not familiar with it should take guides.

Due to the peculiar climate, the islands have a procession of plants in bloom every month in the year. The first rain comes in October or November, sooner or later; if it is a good drenching one, the change will be noticed in a week, and the brown, sunburnt ground is tinted green by alfilaria, wild oats, and countless weeds, which form the warp of the carpet that covers the land. This lasts perhaps until April or May, when the greens turn to hay and the land takes on deep burnt-umber tones and tints, and new flowers bloom. All this time the chaparral or the brush never fades, so the island and the cañons are always green in sheltered places, and always attractive whether in greens or grays or browns.

Each of the islands has its peculiarities of flora, and all resemble the adjacent mainland to some extent; some have plants peculiar to themselves, and some have forms peculiar to themselves and to the regions far to the south.

If one wishes to see cacti, San Clemente is the place; in the east end the finest and most exasperating growth of the real choya I know of on the California coast is to be found. Here are great patches of various species. But the most spectacular growth of cactus I have ever seen, Mr. Gifford Pinchot, Mr. Charles Howland, and I discovered one day in a knife-like cañon on San Clemente. This cañon appeared to be a deep crack in the lava or conglomerate, or both, on the sides of which masses had disintegrated, forming deep caves, of all kinds, sizes, and shapes.

Out of these, hanging down ten, twenty, or more feet, were swinging in the draft, myriads of snakes of vivid green. The resemblance was so perfect that it

was more than startling. The snakes were cacti about the diameter of a large python, and they depended from the caves in a most suggestive manner, as if some giant Medusa were resting in the cave, and her living hair writhing in the cañon. On the slopes of San Clemente the ironwood (*Lyonothamnus*) trees grow in strange and interesting shapes. You may see them on the very top of the highest ridges in a line, one following the other, and all together having the appearance of a big lizard or some gigantic serpent or grotesque monster coming out of its cañon lair. Sometimes there will be but one, looking like a big mosquito or a cricket. The main island is more or less bare in summer, but an emerald in winter; and most of the cañons are filled with trees and verdure the year around; the "holly" berry (*Heteromeles*) is particularly in evidence. If one is a close observer, the tints of the verdure at various seasons is a delight, — the yellows, reds, crimsons, and straw-tints of the foxtail grass, the green and yellow lichens on the north side of trees, or the grays on the rocks.

In the springtime, after deep and soaking rains, Santa Catalina is a garden. Brilliant green patches of cactus, flowering shrubs, groves of wild cherry and cottonwood and slopes of wild oats, masses of lilies and many other wild flowers, attract and lure the walker or rider into deep cañons and fern-invested nooks and corners where the abalone glistens, telling that here the ancient islanders found flowers and shrubs ages ago. Where the sun has continued access the slopes are often bare except for cactus, but in among this you will find the poppy, the long-stemmed lavender *Brodiæa* or the wild onion, and

the brilliant red of painter's brush, or the mimulus. A beautiful shrub is the white lilac (*Ceanothus cuneatus*), and more beautiful still, the lavender lilac (*C. arboreus*). The latter is, I believe, according to Britton, confined to the islands. Where this lilac is at its best the color scheme seems to shimmer in the light, to pervade everything. The bush, really a tree, is about twenty-four feet high. It is known also as the tree myrtle. The flowers appear in dense clusters of light blue from January to April; the leaves are dark green, velvety, and white on the under surface.

I think one of the most beautiful visions I have ever seen in Southern California was a cañon in San Diego County, not far from Pala, in fact the cañon this side of Pala and Mount Paloma. I entered it with Mr. and Mrs. Robert Burdette on a motor-car trip. The cañon was a solid mass of deep brilliant blue. At first I thought it haze, but it was the wild lilac of California, a near kinsman to the Catalina lilac, peculiar to California (*Ceanothus thyrsiflorus*). In wandering over the island one sees llanos where nothing particular seems to grow, then, as about the base and radiating cañons of Orizaba, there are dense thickets; indeed I once took a horseback ride with Mr. Hancock Banning from Empire Landing to Avalon on the coast, and we had a most difficult time in forcing our way through the lilac, greasewood, and other brush.

No one has given more careful study to the plants and other features of Santa Catalina than Mrs. Blanche Trask, the island botanist, author, and poet, who resides at Avalon, and who probably knows the real heart of this island better than any one. One of the

most attractive trees bears her name as discoverer — Trask's *mountain mahogany* (*Cercocarpus traskiæ*), an extremely rare tree, not only limited to Santa Catalina, but very rare here. It attains a height of about twenty feet; its trunk is short and crooked, but picturesque. Once in coming down from Mount Orizaba I became entangled in the greasewood and led and pulled my weary horse down the side of a steep ravine leading into Swain's Cañon on the north coast, where I came upon a grove of dark green trees which I knew to be *Lyonothamnus*, one of the rarest of trees, confined to Santa Catalina, San Clemente, and Santa Cruz. Mr. Harry Polley, another devoted botanist of the island, had written me about it long before, as follows:

"DEAR MR. HOLDER:—

"Am sorry I was delayed in answering yours in regard to the *Lyonothamnus floribundus*. The nearest grove to Avalon, and one of the best on the island, is up Swain's Cañon about half a mile and can be seen from the beach. Is a thick dark green clump of straight trees about thirty feet high, covering space of one hundred by one hundred feet on side of steep hill one hundred feet above cañon to the left; and just across a small cañon above to the southwest is another small clump.

"Next nearest clump is away up on Black Jack, perhaps fifty yards below the ridge trail to the Isthmus, about on a line between the peak and White's Landing.

"Another clump a little way up the left cañon from Goat Harbor."

There are several groves in the little-visited north or west island beyond the Isthmus. The tree is named after Mr. William S. Lyon, who explored the island in 1884–85. Lyon's ironwood is one of the most inter-

esting trees in the country. It has a dignity of its own. It loves conspicuous and high places, where it can look out on the world. At San Clemente I never wearied watching it on the summits, taking new forms as we moved down the coast or climbed the slopes. In June it is in flower, white and beautiful, and can be seen plainly from the old Indian camp ground at the mouth of Swain's.

The Santa Catalina cañons near the point are rivers of verdure leading down to the sea. I have had some interesting experiences trying to ride them with herders and climbing them afoot. Like apple trees on some of the slopes are the white flowers of the tree poppy (*Dendromecon*). Some one might have picked giant poppies and fastened them onto a manzanita as a joke, as at first glance one gains such an impression. Standing on the slope of some of these cañons the eye often rests on rare plants never seen elsewhere, or rarely.

In the winter the cañon runs riot with verdure. The little stream revels musically beneath the willows laden with clematis, the wild rose blocks the way, and great brakes and ferns form a luxuriant growth on the cañon sides. Rising on the south is the Cabrillo range of mountains, following the cañon, its sides cut by innumerable gorges that tempt the stroller. Into them the sun penetrates, chasing out the shadows, and producing a soft opaline haze that softens the landscape and gives it new beauties. As the cañon widens it is carpeted (this winter day) with flowers, while great patches of cactus add to its picturesque features. The note of the quail comes on the soft wind, the roar of their wings telling of astonishing

numbers. Here are shrikes, butcher-birds, robins, and we may perchance catch a glimpse of the white-booted, racket-tailed humming-bird, and others of its kind, darting from flower to flower. Flocks of dove and quail rise as we approach, showing this upland region to be a rare field for the sportsman. The cañon widens out at the centre, then becomes narrow again, descending through the rocks to the sea on the south coast, through a delightful region, ending in a sandy beach. Half-way down is a little hamlet, with peach trees gnarled and ancient, planted by some unknown settler, where lunch is enjoyed, and where the goat and quail hunters often make their headquarters.

This mountain island is attractive to the botanist. Over four hundred different plants are found here, — many that are rare on the mainland, and some unique. Here Mrs. Wheeler, now the curator of the Chamber of Commerce exhibit in Los Angeles, studied and entertained noted botanists, and added much to the sum of botanical knowledge, no one having truer sympathy with the island life. Professor T. J. Brandegee also studied and investigated here, stating that the islands, from the remarkable rarity of their flora, reminded him of some Atlantis. Professor Brandegee made a list of the plants of the island, noting five hundred and twelve species, twenty-six of which have not been seen on the mainland, twelve of the latter being known only on the islands of Lower California.

One of the unique plants on Santa Catalina is a dogwood, discovered by Mr. Polley, which bears his name (*Cornus polleyii*). He also discovered here the five-leaved oak (*Rhus diversiloba*), and the California holly (*Heteromeles arbutifolia*), from which is made the

tanned bark of the fishermen. Its berries are yellow instead of red.

The species of currant, incorrectly called a banyan tree, at Avalon, is the only one not found on the mainland or the neighboring islands. Curiously enough, there are no sycamores here. There is a legend that the pine once flourished, but was destroyed by fire. The cottonwood and willow are the conspicuous trees of the cañons; and here Mr. Polley has found the rare oak, *Quercus MacDonaldii*, known only here and at Santa Cruz.

If we are here at Christmas-time, we shall see the beautiful apple-tree-like blossoms of the *Crossosoma Californicum* — a tree about fifteen feet high. Here is the *Malva rosa* of the Mexicans, or *Laterara*.

In our strolls we shall find the snake cactus (*Cereus emoryi*), and great patches or forests of the prickly pear. *Eriogonum giganteum* is an attractive shrub, ten feet in height, with silvery foliage; while the plant bearing the beautiful clusters of blossoms that overhang the cliffs in early spring is *Leptosyne*.

Leptosyne gigantea, found nowhere else, is a most interesting plant. As you row or sail along the island near Cabrillo, the ice plant haunts the edges of the cliffs and glistens in the sun. In the little cañon is a *Nicotiana*, a tall slender plant from which the natives, it is supposed, obtained their tobacco. Here are the golden stars of the silvery dusty miller (*Ertophyllum Nervinii*), found nowhere else than at San Clemente and Santa Catalina. In some of the cañons to the north of Avalon is the wild cherry of Catalina, with its glossy leaves, which I can see as I write, from my window at Pasadena, having an island tree on my

place. Its big luscious-looking cherries are to some extent shams, being almost all seed. Midway between Little Harbor and the Isthmus is a grove or forest of oaks, and there are cottonwoods (*Populus trichocarpa*), and mountain mahogany (*Cercocarpus pomfoleses*). The island oak (*Quercus tomentella*) is another rare tree. It attains a height of nearly sixty feet, and is found only at Santa Catalina and Guadalupe Island far to the south on the Lower Californian coast. Its common name is the island oak, according to Engelmann. The Catalina variety is a fine tree at its best, round-topped and beautiful. In its neighborhood we shall find the port-stained trunk of the manzanita (*Arctostaphylos diversifolia*) with willow-like leaves.

A volume might be written on the trees and plants of these islands alone, yet people visit them year after year and leave under the impression that they are treeless. Going from San Clemente to Santa Cruz, the latter appears to be densely wooded — as it is, compared to the rest. Owing to the heavy and dense fogs, the hills are well covered. The Italian and Swiss owners have brought trees from Italy. The beautiful round-topped spruce stands at the ranch house, and I have sat beneath its grateful shade. Here are groves of eucalyptus, pines, and firs, splendid oaks vying with those of the mainland. The rarest tree at Santa Cruz is the Torrey pine, a forest of which can be seen at Del Mar near San Diego. Those observed by me at Del Mar were stunted by the wind, but a specimen at La Jolla was a large fine robust tree. No one should leave California without seeing this forest, according to Bridgeman, "the most local and probably the rarest of the pines of our region." I once spent

a day in the little forest. Its peculiar restriction or limited area is one of the real wonders of California.

I can but hint at the ferns and luxuriant growth of the cañons of nearly all the islands, especially Santa Cruz and Santa Rosa. Here great ferns and brakes rise everywhere in forests, and as at Santa Catalina rare and interesting forms are seen. Nearly all the islands have many of the common California plants, the wild cherry, the cacti, and the sumach. Here the elder is a good-sized tree. In Avalon cañons I have seen a scarlet honeysuckle almost covering a tall alder, forming a vivid splash of color. Over the cactus runs the Chile cothte (*Echnocystis fabacca*), sometimes climbing tall trees, again creeping along the ground. The snow of the islands, in June, is the white blossom of the greasewood (*Adenostoma*), just as the snow of the Southern California mainland is the orange petals that whiten the ground.

CHAPTER XXI

A PASSING ISLAND: SAN NICOLÁS

TO make the trip to San Nicolás I would advise a fifty or sixty ton yacht: yet I have known men to go in a skiff; the Indians sailed it in their canoes; and small fishing-boats of twenty-five feet or more make it readily. The island lies so far offshore that it is exposed to all the winds that come down the coast, and appears to be an island against which the wind gods have an especial grievance. Three times I started in a sixty-ton yacht before I finally reached San Nicolás. Each time we were blown off, but on the last attempt we determined to stand by it. The close-reefed yacht laid to somewhere between Santa Barbara Rock and San Nicolás in mid-channel, but about four o'clock we feared it would blow the sails out of her, so we squared away with the jib and power and ran into Santa Catalina Harbor, — a shelter that Cabrillo doubtless sought many times in 1542, — the only perfect refuge on any of the islands. This must have been the anchorage of Vizcaino when he was driven about by the storms of winter. There is much in his accounts relating to running to San Clemente for shelter, the worst place to go. This harbor must have been the refuge of all the mariners caught at the islands in a gale.

In running for San Nicolás from Santa Catalina we pass by Santa Barbara Rock. The former is the outer-

most of all the islands — fifty-three miles from the nearest mainland,—and we logged about ninety, I think, from Avalon and seventy-five from Catalina Harbor. It lies but twenty-four miles beyond Santa Barbara Rock, and is forty-three miles west of the west end of San Clemente. It lies so far out to sea that it has little or none of the protection afforded by Point Concepcion, hence receives the full force of the wind. I have seen San Nicolás standing out clear and distinct, from the summit of the Sierra Madre back of Pasadena, as a remarkable mirage, and on a clear day it can be seen nearly forty miles, or to be exact, forty miles on the level. The island is about eight miles long, extending east and west, and has an average of three miles in width, although it seems more than that when butting into the wind and flying sand. In the centre is a hill or mountain rising to an altitude of about eight hundred and ninety feet, a conspicuous object from many miles away. I have never seen its summit, — there was always a fog cloud; perhaps the fogs are born here.

The island is practically surrounded by kelp beds, which are very thick in places and dangerous at the landing. As we went in on a big roller I could see it squirming and folding like snakes everywhere beneath us. To capsize in it would be unfortunate, as swimming would be practically impossible.

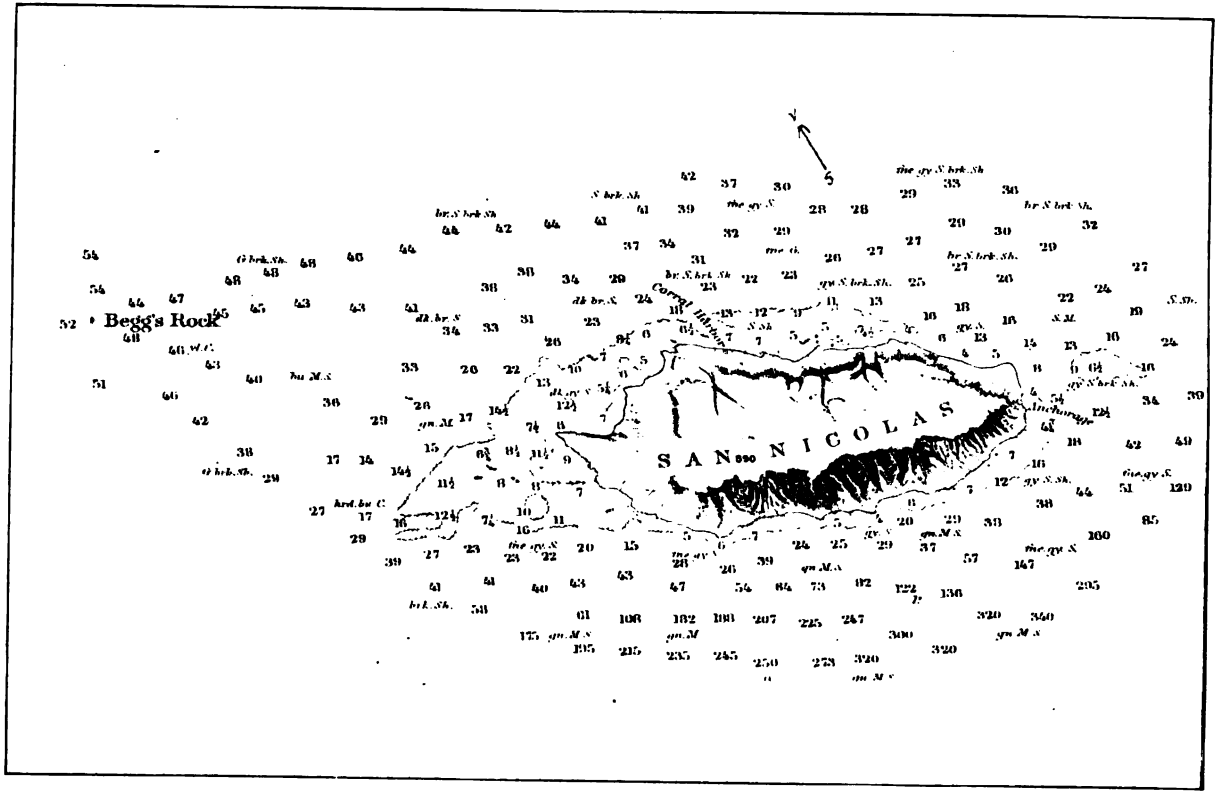
We anchored off a long attenuated sandspit that is a feature of the southeast end. Here the cliffs were about one hundred feet high and the sea came whirling around the island meeting another sea coming around the point, making one of the most disagreeable anchorages I have ever found. In addition to this the current ran like a mill-race and changed without seeming

reason. Add to this a howling, screaming, offshore wind that played a mournful dirge in the rigging, and some idea of the conditions at San Nicolás can be had.

Our landing was made in the surf and kelp, a dangerous place, waiting for the rollers to exhaust themselves, — they roll in in threes. Then when the opportunity came we rushed the boat in, leaped into the water as she struck, and carried her up the beach.

I have heard of mild and beautiful days at San Nicolás, but the single herder, a Basque, informed me that it blew pretty much all the time. The reason was that the people came over to disturb the graves, and the spirits were angry, and so made the wind blow. As politely as he could he entered an objection against any grave-robbing. This explanation of the wind was interesting and new, and the spirits evidently were wrought up that night, as an angry cloud hung about the peak of the island, and the wind blew from all quarters during night.

The Basque was a herder who had been there four months; an uncommunicative person, who looked like Robinson Crusoe, with his wolfish dog, his big hat, and his ancient gun. He told me that he had to pile big rocks on the roof of his house to keep it from blowing away into the sea. He said that the wind blew small stones into the air, and one could not face it. In the upper island I found a singular place covered with small worn pebbles the size of a pea or two peas. The wind had blown off all the soil and left the pebbles. I have never felt a more irritating, searching, penetrating wind than this wraith of the spirits of San



MAP OF SAN NICOLÁS ISLAND

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Nicolás, yet I found this island most attractive, from its very desolation. The desert is fascinating if one sees it at the right time, and is not hunting for water, or the right road, and it is not summer.

San Nicolás is being blown into the sea, and the wind has played some queer pranks here; for example, the mesa of pebbles which leap into the air and blow about, and the wonderful carvings of the wind we found in great natural staircases leading down from the mesa to the beach. On the edge of the mesa there were carvings by the spirits and the wind, that seemed surely of human make, so regular were they.

Desolate as this spot is, it had at one time a large and vigorous population; on this trip we could not walk one hundred feet without coming across some relic of the ancient people who once lived here. There were pipes, arrow-heads, spears, good-luck stones, beads, and the prototypes of many objects that can be found in any poor family of to-day.

San Nicolás is extremely interesting from the ethnological standpoint, and of all the islands it is the only one regarding the appearance of whose original inhabitants any one knows anything definite. A woman was found here years ago, the last of the islanders, and brought to Santa Barbara, as told in a following chapter. As soon as we landed I began to find vestiges of these people. On the great sandspit I found graves covered or marked by whale bones, — this seems to have been a favorite method of marking the graves. At the west end there is a mound or kitchen-midden about ten feet high and extending over a mile, made up of shells of various kinds, mostly abalones, thrown here for ages. In this are the graves of count-

less natives who were buried in the long ago. As each man was buried with all his possessions, there is an object in grave-robbing. Scores of parties have explored here, and doubtless the region has hardly been touched on.

As I walked up the island I did not see a green thing; it was summer when all vegetation was dead, but at least two-thirds of the island is a sand-dune, except where the sand has been blown away. Parts are covered with coarse grass, and there are a few scrub oaks. Barren as it appears, I fancy a botanist or even a layman would find a remarkably large list of plants here in the spring after heavy rains as there were few sheep. Mrs. Trask has reported an interesting list, including *Astralagus Traskæ*, the ice plant, cream cups, the sea verbena, *Hosackia*, *Suædas*, and others. Far away, gigantic in the mirage, I saw a spectral horse.

San Nicolás is a marvellous illustration of what a change of climate a few miles will produce. In plain sight on a clear day is Santa Catalina with the most delightful climate in the world, and I say it advisedly, yet San Nicolás is generally impossible. I have never camped there, but I am going back some day, as the fascination of roaming over this vast kitchen-midden with its tons of buried implements is irresistible.

A friend who camped here for a month, collecting, said that they were forced to shovel sand on the lower flap of the tent to keep it from being blown away, and in the morning they were almost covered with sand. Implements and skeletons are uncovered one day and covered the next. I found one spot years ago which must have been a battle-field, similar to one I found at San Clemente. Skeletons were piled up, skulls

crushed, and bones broken; while mortars, too heavy to carry off, were strewn about — a perfect golgotha.

At low tide the flat rocks were bare, and I walked up the beach on them away on the west coast and watched the angry menacing sea. I could hear strange sounds — the gurgling, groaning, bellowing of the sea gods in their caves, and now and then a big wave would roll into a deep cave, and a *boom, boom, boom* would sound, — the guns of some ghostly ship shaking the ledge and the island. On the northeast side the kelp seems to have disappeared for two miles, but on the west end it runs out for at least three miles. The kelp is the only buoy or signal of danger here, as the Government has done nothing for mariners in this section.

Yachts should always remain outside the kelp bed. About one-half mile west-southwest from the western point there are two dangerous reefs. Our anchorage under the lee of the spit, which I took the liberty of naming Ferrelo's Point, after Vizcaino's pilot, is the best, save the mark! In a southeasterly gale anchorage would be impossible, though at other times there is good anchorage in forty or fifty feet. Up the coast on the north side of the island is Coral Harbor, about three and one-half miles from the west end. This is a miniature harbor about six feet across on the inside, with an entrance about twenty feet wide,—an excellent landing for a small boat. Water seeps from cliffs at various points, and there is a spring near Coral Harbor covered at high tide.

Just as at San Clemente, there is at San Nicolás a volcanic cone off the west end, a most conspicuous landmark in clear weather, but extremely dangerous

in thick weather, as it is eight miles northwest from the west point of the island and is forty feet high. It is the top of a mountain rising from the sea, and with nothing to warn the mariner on a dark night except his presumable knowledge that Begg's Rock is somewhere about. There should be a bell buoy here. You can see Begg's Rock ten miles off in clear weather. It is protected by a circle of Nereocystis, or kelp, and a reef runs north and south from it almost three hundred feet in each direction. That it is a singularly dangerous peak is evident from the fact that at night a ship might take a sounding of sixty fathoms and five minutes later crash onto Begg's Rock. The last time I saw it the seas were enveloping it in their fury of spume. They would hit it and climb at least two hundred feet into the air—a splendid and impressive spectacle.

There is deep water off San Nicolás, especially to the north, where there is a depression over a mile deep; and between San Nicolás and San Clemente there is a cañon over a mile and a half deep. Southeasterly from San Clemente there is an abysmal deep of six thousand feet. All this enables one to form a picture of the pinnacled or needle-like appearance these islands would present if the ocean were to withdraw and leave them dry.

Little is known of the history of San Nicolás. It belonged to the Spanish by right of conquest, and in 1542, when Cabrillo discovered the country, it was populated. I found quantities of enormous red abalones on the mounds.

Despite its desolate appearance, the island was, and is, a fine fishing-ground, abounding in abalones, crayfish, and game of the sea of all kinds. Yellowtails

rush into Coral Harbor at times, and fairly leap on the sands; and the vast kelp beds shelter myriads of fish. The largest rock bass I have ever seen I took here. All are colored, in imitation of the kelp, a rich dark green.

Birds are not so common at San Nicolás as at the other islands; yet the Pasadena Academy of Sciences sent an expedition here some years ago to observe the birds. This undertaking was made possible by Mr. Hulett C. Merritt and others. Professor Joseph Grinnell found a number of interesting birds, among which were the mourning dove, bald eagle, American osprey, white-throated swift, Western wood-pewee, streaked horned lark, American raven, house finch, rock wren, the last probably a distinct species. Among the water birds observed by Professor Grinnell were the Cassin's auklet, the Western gull, which breeds here, black-footed albatross, black petrel, Farallone cormorant, Brandt's cormorant (breeds on the north side of the island), the California brown pelican, which dives down from a height of twenty or thirty feet, the great blue heron, the black-necked stilt, spotted sandpiper, and the snowy plover (breeds here). Doubtless if some one living on the island a year would take observations, this list could be doubled or quadrupled, as birds are blown offshore during their migrations, and hundreds seem to follow the instinct of direct flight over sea and land.

The Indian implements taken here are of more than ordinary interest. Some were found by Captain Chappelle of Avalon in coffins of wood. But the most interesting objects he found were abalones placed face to face and soldered together with asphaltum,

which drifts ashore here in quantities and which was universally used by the islanders. These boxes were filled with choice beads or trinkets, and doubtless belonged to the women; we can imagine them as primitive jewel cases. This collector has lived on the island weeks at a time, and has made several valuable collections, one of which was bought by W. H. Burnham of Orange and presented to the Southwest Museum. Mr. E. L. Doran of Avalon has collected at San Clemente, and has a very attractive collection at his summer home at Avalon. One of the finds is a long stone club, an extraordinary weapon, doubtless a token of office. The Government has published many accounts of these implements; illustrations of them can be found in Vol. VII, Geographical Survey. The best collections in California are these of the Southwest Museum and the Chamber of Commerce, Los Angeles; the National Museum and the American Museum have good collections.

San Nicolás is known to have been ravaged by the Russians from Alaska, who came down the coast a century ago hunting for sea otters, with which the island abounded. It is said that they played havoc with the islanders, robbing and killing the men, and stealing their women. To-day the victims are represented by bones and by their abalones and other shells. These are eternally covered and uncovered by the howling wind.

In the past twenty or thirty years a number of persons have lived on San Nicolás; some to collect antiquities and shells, some to study the islands, others to get away from the world. Many were Basque herders, a race which seems particularly adapted to

retirement; again were found men of intellectual attainments desiring to live alone. The Basque Crusoe herder I saw here had no idea of time or news. He did not know who was President, had not heard of the war with Spain, and did not care. He had food in abundance and plenty of "Dago red" claret. When he saw us coming he walked off, followed by his dogs, and he did not like my holding him up and insisting on conversation. The only subject in which he was interested was fleas, and I thought of a Baron Rothschild (or is it some one else?) who is collecting fleas. To illustrate flea trouble, he took his big dog by the tail, whirled him about and threw him into the sea. It had never occurred to me that this was a use for a dog's tail. I obtained from him a "sure cure" for fleas, and I give it as tried out at San Nicolás. You close all the doors, plug the cracks, then boil ten gallons of salt water and pour it into the room. The heat paralyzes the fleas for a second. Now open the door, and the water pours out taking every flea with it. So it will be seen that my Basque Robinson Crusoe was an inventive genius. But when I asked him why he lived there his reply was evasive: "*Ignotum per ignotius.*"

This man had a comfortable shack near a sea-lion rookery, and there were various appliances for caring for sheep. This was on the east end. At Coral Harbor there is a stone house, or was. If you do not see it, dig in the nearest sand-pile and it will be found. It reminded me of Mayport on the south side of the mouth of the St. John's River, Florida. An old boatman of mine, a Minorcan, went home for the summer; when he returned his house was represented by a sand

mountain,—it was out of sight. In 1860 an otter-hunter and his wife lived here for a year and built a wooden house. It is said that the sand has completely eaten the building away by wearing down the wood. This is a strong statement, but its possibility can be demonstrated by a visit to the Cajon Pass country, where the life of a telegraph pole is very short if the wind can reach it.

All these peculiarities are what make San Nicolás a fascinating place. Every time I ride in on that peculiar sea at the east end I vow to myself that it is the last time; I never wish to see San Nicolás again. But when I leave, the subtle fascination reaches out and grips me, and I know that I shall go back, and if I were a traveller in the Channel Islands I would turn my back for a few days at least upon the charms and delights of Santa Catalina or Santa Cruz and go to San Nicolás to see it and its vast kitchen-midden, one of the largest in the world. The trip might result this way: I once told a friend about the island. Being of a poetic and highly imaginative temperament, he decided to go there and hear the wind howl, see the sand blow and the wind gods rail as I described it, painting possibly as I rose. He went to San Nicolás. When I met him, a year later, he said nothing, but there was a gleam in his eye. I hunted up his skipper and this is what he said: "We got there all right, but the wind had died down, and it was a dead calm for a week, warm and beautiful. There was n't a ripple, —Santa Catalina was n't in it." This was in January. So if one goes to San Nicolás hunting the Furies he may be disappointed, though it is fair to say I never have been.

CHAPTER XXII

THE SEA-LION ROOKERIES

IN riding over the mountain trails of almost any of the islands that are strung along the coast of California, from San Miguel to Coronado, one may hear strange roars and bellowings at times rising from the adjacent sea. If one has the curiosity to locate these sounds and find out what they mean, he may follow down the deep rocky cañons that lead to the ocean, and come suddenly, perhaps, upon the rookery of the lions of the sea, which can be found alongshore in isolated places.

In years gone by the islands gave shelter to myriads of these animals; but they have been gradually decimated, until the great rookeries contain but a few. On the island of Santa Catalina the sea-lions are protected, and here, on the southeast end, is the finest rookery known, when the tameness of the animal is considered; they have been protected so long that they will permit boats to approach to within a few feet of the rocks and the occupants to photograph them. These sea-lions are several times as large as a common seal; and while the latter has a short neck, the former has a long and snake-like one, a ferocious mien, and a mouth fitted with sharp teeth. It is very active, and appears like a gigantic slug, dark and shiny.

Sea-lions are very clever animals. They feed mostly

at night, basking in the sun on the rocks during the day. As the sun disappears they tumble overboard, and, in parties of from one to ten, start out, often swimming twenty or thirty miles at a rapid rate, and entering the bays, especially those where fishermen make their headquarters. In Avalon Bay the roaring or barking of the sea-lions can sometimes be heard all night, one or more remaining there until all the fish thrown overboard during the day are removed. They are so tame that the fishermen when washing their fish have had their catches snatched from their hands, and they will often follow the men about and steal the bait as fast as it is put on; yet they never seem to appear above water, just bringing the tips of their noses to the surface to breathe. They rarely venture far from shore, in fear of the big orcas and sharks.

There was a troupe of Santa Cruz sea-lions in this country at one time which performed the most astonishing tricks. I saw a group of five or six pass a ball no larger than an orange from one to another, all the time poising it on the tip of the nose. The same was done with a large ball, and when it was missed one of the lions would place his nose beneath it and toss it into the air, and carry it about with perfect ease. All these sea-lions would take burning flambeaus and toss them about with the greatest abandon.

One rookery at Santa Cruz is virtually beneath a large mountain in a sea cave that extends under the island to an unknown distance. One I found was on a slippery ledge; and when I tried to go ashore the sea-lions came rushing down the rocks, one big bull with mouth wide open, apparently to drive me off; but as I stood my ground (because I was obliged to)

he sheered off, plunged into the ocean with the rest, and swam rapidly up the coast with loud, barking roars.

The point where sea-lions are mostly caught on Santa Cruz is on the southwest side of the island, where the sea often makes a breach against the high cliffs. In an isolated cleft is a large rookery impossible to reach in rough weather, but so placed that the herd cannot well escape when the men go ashore. The outfit includes a number of skilled cattle men, who, with several boxes or cages on a power launch, anchor off the island and wait for a day when the lions are all on the rocks. Then the rowboats work carefully in, watching their chance, the rowers backing, and holding the boat on the big waves until the men have an opportunity to jump ashore. Generally two or three men make the attempt at one time, and drive the lions back for some distance into a *cul de sac*. When the animals find that they are cornered, they turn and charge the men, and it requires no little nerve to stand and face the open mouths of the roaring animals, as they come on with a curious galloping motion.

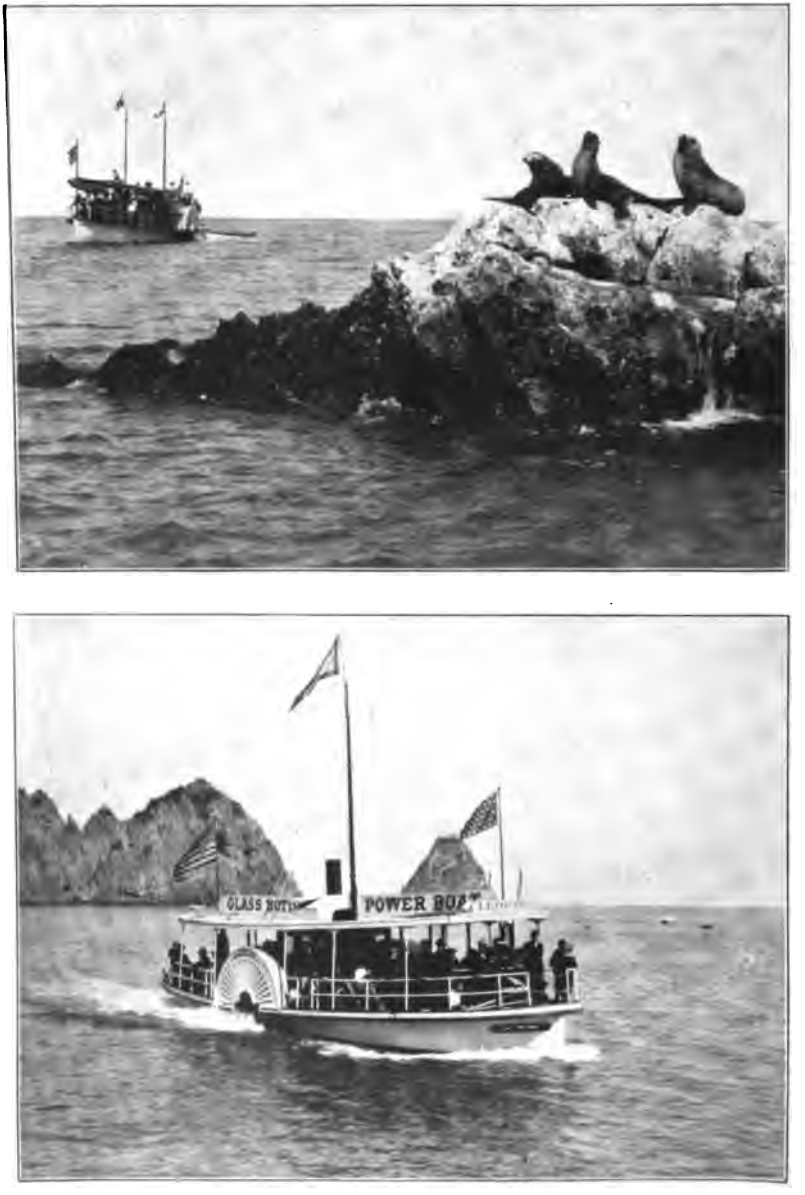
It is at this time that the men use their lassos. The moment the *reata* falls and the game is caught, the men dash for the rocks, where they can take a turn with their ropes, and the struggle begins, the lions making desperate efforts to escape. Some break away, biting off the rope or slipping it over their heads; others reach the water, and the men have to be active to escape the horde of crazed animals (some of which weigh one thousand pounds) which come sliding down the kelp toboggan. After a long struggle the sea-lions are mastered; the ugliest are gagged, bound, thrown

over, and towed to the boxes, into which they are placed. Later they are hoisted aboard the launch and carried to Santa Barbara, from which place they are shipped to museums or zoölogical gardens all over the world.

The greatest complaint against sea-lions comes from fishermen, who say that they visit their nets or seines and take out the fish. I have observed this myself. A sea-lion stationed itself near a net in the kelp, and every few minutes plunged down, and swam along the net, biting off the body of every fish that became gilled. This was done despite the fact that I was near in a boat, as was also the Italian owner of the net. He hurled imprecations at the sea-lion when it came up with a big rock bass and deliberately tossed it in air, as if to irritate the fisherman, who, while robbed in the grossest manner, was prevented by law from shooting the robber.

The rookery at Seal Rocks, on the east end of the island of Santa Catalina, is the best known and most available. Thousands visit the rookery and photograph the sea-lions. In the spring the females and young can be seen on the beach, the young learning to swim in the shallows; but they are desperately afraid of the water at first.

Nearly all the islands have these rookeries. A Basque hermit on San Nicolás told me that he was terrified by their roars at times. The sea-lions at these islands are protected and are increasing. In former years what is known as Cabrillo and Catalina Harbor — a land-locked bay — was the home of a large herd of sea elephants, which were doubtless exterminated by Captain Scammon and his men. It is very doubtful



GLASS-BOTTOMED BOATS AND SEA-LION ROCKS, SANTA CATALINA ISLAND

THE TAME SEA-LIONS AND GULLS OF SANTA CATALINA

"Old Ben" coming ashore

if any can be found now this side of Kerguelen Land, though there may be a few on the islands of the Gulf of California. This is *Macrorhinus leoninus*, the males of which have been seen twenty or more feet in length. Some of their bones have been found at Catalina Harbor. According to Scammon, in former years there were rookeries on many of the islands, just as there are sea-lion rookeries to-day. Scammon thus refers to them:

"The habits of these huge beasts when on shore, or loitering about the foaming breakers, are in every respect like those of the leopard seals (that is, the Pacific harbor seals). Our observation of the sea elephants of California go to show that they have been found in much larger numbers from February to June than during other months of the year. But more or less, we at all times found them on shore, upon their favorite beaches, which were about the Islands of Santa Catalina, Cerros, Guadalupe, San Bonitos, Natividad, San Roque, and Asuncion, and some of the most inaccessible points on the mainland, between Asuncion and Cerros. When coming up out of the water they were generally first seen near the line of surf, then crawled up by degrees, frequently reclining as if to sleep; again moving up or along the shore, appearing not content with their last resting-place. In this manner they would ascend the ravines or 'low downs,' half a mile or more, congregating by hundreds. They are not so active on land as the seals, but when excited to inordinate exertion, their motions are quick, the whole body quivering with their crawling, semi-vaulting gait, and the animal, at such times, manifesting great fatigue. Notwithstanding their unwieldiness, we have sometimes found them on broken, elevated ground, fifty or sixty feet above the sea.

"The principal seasons of their going on shore are when about to shed their coats, when the females bring forth their young (which is one at a time, rarely two), and the mating season. These seasons for 'hauling up' are more marked in southern latitudes. The different periods are known among the hunters as the 'pupping cow,' 'brown cow,' 'bull and cow,'

and the 'March bull' seasons; but on the California coast — either from the influence of climate or from some other cause — we have noticed young pups with their mothers at quite the opposite months. The continual hunting of the animals may possibly have driven them to irregularities. The time of gestation is supposed to be about three-quarters of the year. The most marked season we could discover was that of the adult males, which shed their coats later than the younger ones and the females; still, among the herd of the largest of those fully matured (at Santa Barbara Island in June, 1852), we found several cows and their young, the latter apparently but a few days old.

"When the sea elephants come on shore for the purpose of shedding, if not disturbed, they remain out of the water until the old hair falls off. By the time this change comes about, the animal is supposed to lose half its fat; indeed, it sometimes becomes very thin, and is then called a 'slim skin.'

"In the stomach of a sea elephant a few pebbles are found, which has given rise to the saying that 'they take in ballast before going down' (returning to the sea). On warm and sunny days we have watched them come up singly, on smooth beaches, and burrow in the dry sand, throwing over their backs the loose particles that collect about their fore limbs, and nearly covering themselves from view. But when not disturbed, the animals follow their gregarious propensity, and collect in large herds."

Elsewhere he speaks of one hundred and sixty-five as the largest number he ever saw together in one herd.

Among the earless seals, the sea elephant appears to stand quite alone, in the very great difference which exists in size between the male and the female. This is almost as great as that between the sea-lion bull and his cow.

The sea elephant takes its name from the long, wrinkled proboscis or extensible snout, which is seen

in the male. Just what the purpose of this may be does not appear to be known.

While the rookeries of the sea-lions are called "seal rocks," seals are not in evidence; in fact I have seen a seal at Santa Catalina but once, and this big fellow followed me about, taking my bait with exasperating skill. Once I hooked and played him for a few seconds, or until he twisted my line around a mooring.

CHAPTER XXIII

THE ISLAND OF THE SACRED CROSS: SANTA CRUZ

IT is said that Cabrillo often entered Prisoner's Harbor in Santa Cruz. We tried to imagine his caravel lying in the lee, as we beat up one radiant morning from Anacapa in the good yacht *San Diego*, Captain W. H. Burnham, the owner, in command.

Above the anchorage the island mountains rose, tier after tier, covered here and there with a thick growth of pine, manzanita, and other trees, from which waved filaments and pennants of moss. Leading away from the harbor was a deep cañon, from which, while we waited on the pier, where a large sign gave notice that intruders were not wanted, the rumble of wheels was heard, and a pair of sturdy horses appeared, dragging a trap filled with ladies and children. It so happened that we had letters to the owner, Justinian Caire, which insured us welcome to the island, and to one of the most picturesque ranches on the Pacific Coast.

From the sea, Santa Cruz Island is a jumble of lofty hills and mountains, with deep gorges and cañons winding in every direction. Hidden away in the very heart of this island is an ideal ranch, with a pronounced foreign atmosphere, in a climate as perfect as that of Avalon on the island to the south.

Seated in the trap, with our host holding the reins,

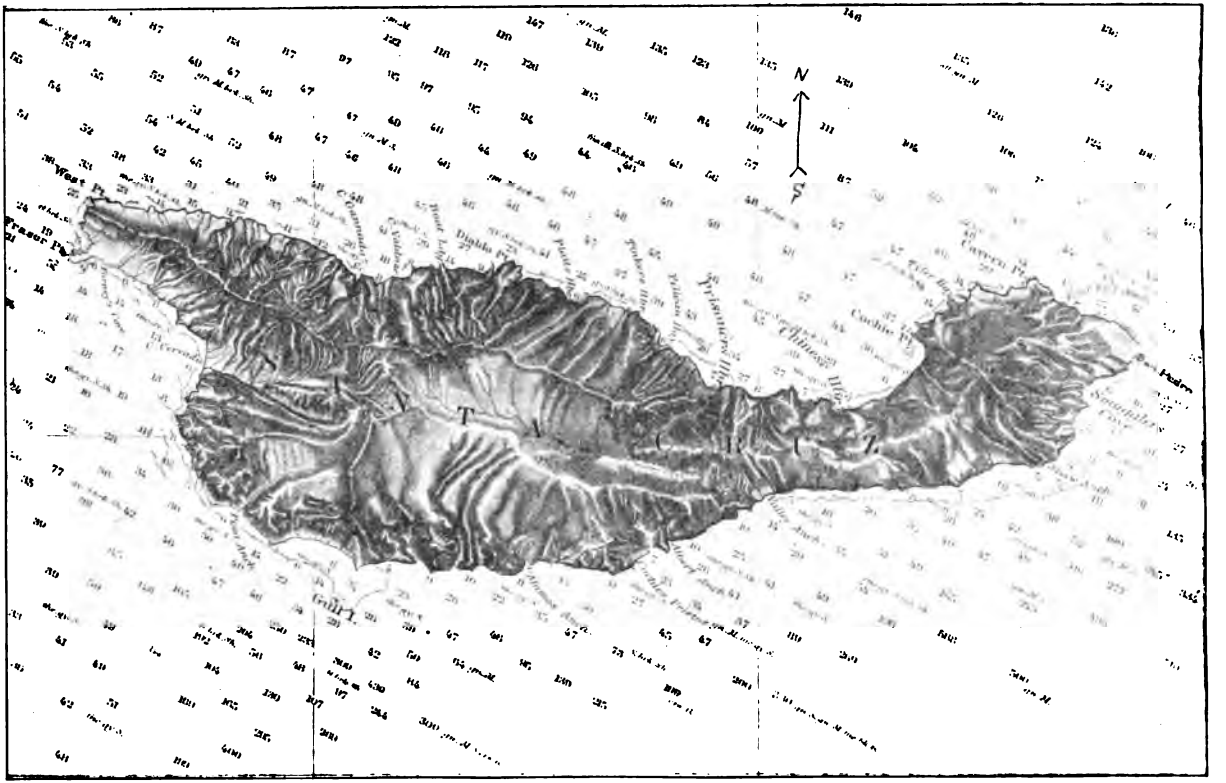
we turned into the gorge, which in winter is the bed of a rushing torrent that often fills the cañon from side to side, while from lateral cañons other streams sweep down, adding to the mass of boulders. The road, now comparatively smooth, followed this bed, and presently took us into a delightful region, winding through lofty live oaks and beneath great sycamores and cottonwoods. At every turn some new and striking bit of scenery appeared. All the attractive spots had names. One was Ravenswood, while others bore liquid Spanish or Italian legends peculiarly appropriate and suggestive.

The road wound upward; the horses now splashing through the summer stream beneath gnarled and picturesque oaks, now out into the open, where the sun poured down through rifts in the cañon beneath a sky of tender blue; then plunging into the narrow cañon again, where the walls grew lofty and precipitous, shutting out the glare of the sunlight; and beyond rose the crests of hills, one above another. A stranger would never have suspected that this stream bed, this narrow gorge, cut through the solid rock of the range, led to so charming a region, as at every turn the scenery seemed to grow wilder and the sides of the cañon more precipitous. Here a huge amphitheatre had been eaten out by the elements, down which the winter streams leaped in a series of cascades and waterfalls. The hills were sere and brown in their summer coating, but in the cañon, brakes and ferns grew luxuriantly, and various summer wild flowers gave color to the scene.

Three miles of this, and the charming cañon road came to an abrupt end. The cañon sides and the mountains suddenly melted away, and the horses

dashed into a long, rolling valley, where the air was like velvet on the cheek and an incense of flowers and vines filled the nostrils. At one moment Nature at her wildest, with stupendous chasms and precipices; the next, masses of verdure, rows of vines laden with grapes, acres of green gardens, plume-like eucalyptus trees, besides walnut, fig, and others — a gem in the very heart of the island, surrounded by high mountains, invisible and unsuspected from the not far distant sea.

The Caire ranch has been in existence for nearly thirty years; but probably it has not been heard of in the East, and is known by few people on the Pacific Coast. Yet here on an island, twenty miles out in the Pacific, up a cañon almost impassable at times in winter, is a model ranch, presided over by its superintendent and attended to by sixty or more men. The proprietor is French, and French and Italian laborers are employed exclusively, the original plan having been to establish here a Swiss-French colony. The little valley in the interior and its climate, so similar to that of Italy and Southern France, probably inspired the owner to reproduce a European vineyard here, and so faithfully has the idea been carried out that on entering the valley one can easily imagine himself in one of the wine-producing districts of France or Italy. Not far from the ranch houses is a large vegetable garden for the benefit of the men, making a most luxuriant showing, and telling the story of the richness of the soil that produces vegetables every month in the year. The two ranch houses of brick covered with plaster and whitewashed, with a small veranda and iron balconies wherever there was an excuse to



MAP OF SANTA CRUZ ISLAND IN SANTA BARBARA CHANNEL

place one, have a decidedly foreign air. In front of each is a small, old-fashioned garden, with narrow, winding walks, filled with fragrant, old-fashioned plants. The dining-room is in a separate building, and at the sumptuous lunch our host informed us that everything but the champagne and flour was produced on the island ranch.

Standing on the ranch house veranda, the valley was seen to extend east and west several miles, and rising to the summit of the hills were the vines, planted in the European fashion. They were of many kinds, producing the white and the red wines which have made the Santa Cruz vintage famous. A long road lined with lofty eucalyptus trees followed the valley, passing through acres of vines. Near at hand were two large wineries, where the wine is made and stored. It is said to have a peculiar bouquet not noticed in the mainland wines.

There are two distinctive seasons at the Santa Cruz Island ranch — the sheep-shearing and the vintage, when the French and Italian islanders are reinforced by the Barbareños, from Santa Barbara, who pick the grapes in September and shear the sheep twice a year. The latter work requires men of this hardy stock and the finest horsemen, and probably in no other country are men seen riding over such inaccessible mountains. The sheep, of which there are thirty thousand or more, range all over the fifty-six thousand acres of the island, except in the valley in the interior, devoted to the ranch and vineyard. The island is cut in every direction by cañons, whose walls in many instances are so precipitous that it is almost impossible for an unaccustomed man to climb them; yet the fearless

Barbareños, mounted on native horses, ride over the most perilous places.

A most ingenious method of leading in the sheep is employed. The horsemen take out with them three white goats, which, when a flock of sheep is discovered, are released. The latter join them at once, and the goats turn and lead them in the direction of the corral, the sheep following blindly. When one flock of sheep is secured, the goats are taken to another, and in this way they save the herders much trouble.

The vintage is a season of jollification, but though in a land of wine, there is no excess in drinking. This was explained by the manager, who said that the men rarely drank water, a variety of claret being made for their especial benefit. This, diluted, each man carried in a small keg when he went to the field, and used to quench his thirst; and in consequence a case of intoxication was never known.

Not far from the house is a little chapel, where services are held, and to the west are the great corrals for the horses, the shops for the wagon-makers, blacksmiths, tool-makers, etc.; for nearly everything used on the ranch is made here, even the ornamental iron railings. Over the big stable is the island clock — a peculiar sun dial, ornamented by some of the men. Beyond are the quarters of the wine-makers and their dining-hall. In the latter is a list of rules, in Italian, as follows: "Do not throw bread upon the floor." "Eat your soup; it is a nutritious food." "Do not criticise your neighbor at meals." "Do not talk loud," etc.

We were shown the great bakery with its rows of Italian bread; the cook-shop, with its four or five Venetian cooks, and all the departments of this inter-

esting colony, which has been in operation twenty or thirty years. I saw but two graves, one of the dead men having been killed in an accident; whence we may infer that the island is a healthful place. In fact, though there was much to see of a novel and striking nature, the climate of this little valley impressed us the most, and we were told that it was almost the same, winter and summer, so perfect that one almost regrets that the island is private property, and that it is not thrown open to the world like Santa Catalina.

Santa Cruz has, like nearly all these islands, a peculiar charm, and is to Santa Barbara, one of the delightful old cities of the coast, what Santa Catalina is to Los Angeles. Long ago it was a Spanish grant to some *conquestadore*, coming to Andres Castellére under Mexican rule, and to-day it is the vineyard and summer home of the old French family of Justinian Caire.

I shall not soon forget another glimpse I had of the island. This time we had left Santa Barbara twenty-five miles to the north and the yacht was bounding along across the channel, the wind rising every moment, until, when we were five miles offshore, it seemed to blow half a gale. The skipper held on until it seemed as if we would hit the island. Its well-wooded slopes rose before us in a tangle of fog banners, and great masses of silvery foam-like mist swept down the side — a glorious and impressive spectacle. We were headed for a mountain, Point Diablo, which extended out into the sea, a mountain of rock, and to ram this seemed the object. But our skipper knew his waters. Instead of coming about he kept on. Suddenly the rocky precipice took the wind, the gale left us with just headway enough to guide into a little harbor

about four times the length of the yacht, a perfect refuge in almost any wind, with the mountain rising all about, and to the west, not a stone's throw, a pebble beach up from which reached a deep, well-wooded cañon. There was something magical about it all, as the anchor chain rang down to the hard sandy bottom, and we swung to with just about the safe amount of room.

Coming up from the south on a cruise one is impressed with the fact that Santa Cruz is the best wooded of all the islands, as its slopes are often covered with brush and its cañons filled with trees, though some parts of it are barren and rocky. We had entered this little harbor on the north coast at Point Diablo to visit the Painted Cave, which has made Santa Cruz famous and the Mecca of many parties from Santa Barbara and Santa Catalina. The cave, more remarkable than the grotto of Capri, is really beneath the mountain, and the following day, while the yacht lay off and on, we took the ladies in the rowboat and pulled in. It was a peculiar illustration of the effect of uncanny places. My friend, the owner of the yacht, could not induce his crew to go into the cave. We first entered a diminutive snug harbor in the kelp and at once faced the great Gothic arch, its entrance. The water here was as smooth as glass, the trade wind not having started up, and the only disturbance was an occasional ground swell that came silently along and found its way into the cave.

It is well called the Painted Cave, as the salts have dyed or colored it in a fantastic manner, in brilliant yellows, soft browns, reds, greens, and vivid white. The first room opening from the sea may be sixty or

THE PAINTED CAVE AND CUEVA VALDEZ, SANTA CRUZ ISLAND

COAST AND CAÑON VIEWS ABOUT SANTA CRUZ ISLAND

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seventy feet high, the walls beautifully colored or painted. From this room we pushed the boat in and in until we came to a dark door or opening somewhat but not much larger than the boat. As we approached, a wave came rolling in, sobbing, hissing, groaning in a strange uncanny manner, and I noticed that as it swept in, it almost closed the entrance. It was not an alluring prospect, and I did not wonder that the men displayed so little curiosity. There was but one thing to do. We pushed our boat as near the hole as possible and waited for the next roller, and as it filled the entrance we pushed in immediately after it and got through before its successor came along, a proceeding easily accomplished. At once we were in almost absolute darkness, a small vivid eye of light representing the entrance. It has been my good fortune to hear some singular noises in my day, but the pandemonium, worse confounded, in this cave under the mountain of Point Diablo at times exceeded anything I had ever heard.

We had made a flambeau of waste, and tying this to a stick endeavored to see the roof or ceiling; we also attempted to sound the cave, but all to no purpose. I should imagine it was one hundred feet across. I found on the side a ledge, and beyond, and under this, were other caves or passages through which the water went roaring, hissing, and reverberating in a series of sounds which I could easily understand would demoralize any one with weak nerves. There were two ladies with us. Captain Burnham and I rowed, and our fair passengers were animated with a desire for investigation. I am rather inclined to explorations myself, yet I could not but think that if a particularly

heavy earthquake should occur at that time and lower the entrance a foot or two, we should be imprisoned beneath the mountain. As I stepped out on the shelf, screams, yells, and shouts seemed to come from the dark unfathomed caves far beyond, and all the evil demons of this sea cave apparently sprang to life. At the same time a particularly big wave came in, filling the entrance completely, and as it went reverberating on into countless other caves, it released myriads of reverberations and echoes until the sound was deafening, confusing, and appalling.

The cave was a sea-lions' den. When I stepped onto the ledge I dislodged several by almost stepping on them in the dark, and their barking protests as they dashed out added to the volume of sound. As they swam beneath us the water blazed with phosphorescence, turning the place into a veritable witches' caldron. I crashed two planks together to find out what sound really was, and we could hear it bounding off and far away into the interstices of the mountain in an appalling series of sounds.

Watching our chance, we reversed the operation; the moment a wave came in we pushed the boat through into the dazzling sunshine.

If I should attempt to designate the most striking feature of Santa Cruz I should name its caves, as the entire coast on the water line appears to be cut and perforated by the gnawing sea. Some are large and open; others spout water and air with undisguised ferocity; some merely hiss, growl, and moan as the sea rushes into them; while others again appear so far beneath that the compact merely shakes the rock with a dull heavy reverberation.

The cave known as Cueva Valdez, toward the east end on the north side, is quite as remarkable as the Painted Cave. It is partly on land, and will hold several hundred people. One entrance opens on the little bay, really a very good harbor; the other on a sandy cañon that leads up into the mountains; and there is a trail along the rocky shore to the east.

Almost everywhere I found the black earth and the shell heaps of the ancient inhabitants. There were literally hundreds of such places, and in the cañon I found a little stream that was cutting its way through an ancient burial-ground. Visitors are not particularly desired unless they come accredited from some one, so I imagine that a systematic search at Santa Cruz would result in the discovery of a vast amount of Indian implements. At the west end we found large deposits of abalone shells.

I wandered over these old town sites, watched the little stream which glides over their bones, and the strong wind that exposed their household gods, on the dunes, and I could readily see this charming isle of summer with its mountain-environed cañons and valleys peopled by a race that attained happiness at least; men and women to whom imaginative values had some significance, and who fought a good fight in the field of human endeavor.

No one can examine the really beautiful objects taken from these homes — the fish-hooks of pearl, the beads of shell, the weapons of artistic design, the gracefully carved cups, the mosaic-ornamented flutes and pipes — without crediting these lost people with imaginative achievements and as being early protagonists of the principle that life and beauty are in some way

essential. Here I found steatite from the old manufactory of Potts's Valley, Santa Catalina, showing that the natives traded. I have heard legends from old Indians that the natives of the islands made ollas of soapstone and traded with the natives of the mainland.

All the cañons of the islands are attractive. Some on the east end of Santa Catalina are never entered and are remarkable for their abysmal depths; those at San Clemente, as Mosquito and others, impress one by their extraordinary depth — slashes of a big scimitar down into the rock of eternity, leaving massive gorges. At San Nicolás I saw cañons carved by the wind into weird shapes, made by it, or by genii's wings; but the cañons of Santa Cruz are beautiful, like many on Santa Catalina filled with beds of ferns and giant brakes, banked with the gold and silver backed ferns and other verdure, with the music of running water and the songs of birds. Nowhere that I recall is there such a contrast of verdure in winter and spring, and barren desolation the rest of the year, as at Santa Cruz. One can leave the fruit-laden valley, climb the hills, and look down on drear sand-dunes and on rocks riven by the seas of the ages. The flora here is extremely interesting, and resembles that of Santa Catalina and the neighboring shores. Its rarest possession, or at least most interesting one, is the little grove of Torrey pines placed here by the Infinite for some good purpose.

To refer to the fishing at Santa Cruz would be to duplicate what has been said of other islands. The same fishes are seen here, but the fishing facilities are not so good, because the conditions have not demanded

it, and many visitors are not welcome yet to this vale of peace in the lee of Concepcion.

Santa Cruz is one of the largest of the islands, its long axis being parallel to the neighboring mainland shore. It is twenty-one miles long, extending almost east and west, with an average width of five miles. On the western end a commanding peak rises to an altitude of half a mile or more, or, to be exact, two thousand four hundred and seven feet. Another peak on the east end is fifteen hundred and forty-nine feet high. Santa Cruz has a number of peaks with respective altitudes of thirteen hundred and twenty-nine, thirteen hundred and seventy-four, fourteen hundred and ninety-six, and fifteen hundred and forty-nine feet. On the northern ridge there are peaks of eighteen hundred feet, twenty-four hundred and seven feet, and twenty-one hundred and forty-four feet. According to Goodyear, three-fourths of that ridge consists of volcanic material. From these peaks I have had comprehensive views of the island and the Santa Barbara Channel. In climate this island compares most favorably with any part of the Riviera, as here are none of the hot winds of Africa or the cold breezes from the Maritime Alps. The eastern end, San Pedro Point, is twenty-one and one-half miles from Santa Barbara and four miles from Anacapa; and the deep, riotous little channel abounds, as I well know, in game bonitos, great schools being seen everywhere on clear days.

The Santa Barbara Channel is about fifty miles long. Here the United States cruisers and battleships launched on this coast are tried out. The channel between the islands is a cañon about half a mile deep. The little channels between all the islands are not

over two hundred feet deep, and submarine ridges extend from San Miguel toward Concepcion and from Anacapa to San Buenaventura on the mainland, at a depth of not over seven hundred feet; hence if an elevation of the entire coast should occur the entire group would become connected with the mainland.

In the Post Miocene times (several million years ago), all these islands were, according to Smith, mountains belonging to the mainland, with the exception of San Nicolás and San Clemente, the latter coming into existence early in the Pliocene with San Nicolás. In the Pliocene depression, during which the sea stood fifteen hundred feet below its present level, Santa Cruz was a narrow island, or a line of islands, about seven miles long. In the vast ages following, the islands literally had their ups and downs, rising and sinking.

From the highest peak the green, irregular, precipitous, rocky shores could be seen with little indentations, but no real harbors anywhere. Off to the south end Gull Island rises one hundred and fifty feet high, one of a group of rocky islands one-fourth of a mile in extent, about three-fourths of a mile offshore—a splendid barrier to the sea in a gale, which leaps into the contact shivering, gleaming in the light. Around Gull Island the kelp forest is very thick, affording a refuge for many fishes — the ever-present golden perch, or angel-fish, rock bass, kelp-fish, black sea bass, and many more.

Far beyond the island this garden extends, terminating in blue water a mile to the east. We sailed completely around Santa Cruz and endeavored to count the innumerable ancient abalone heaps and mounds

of black earth. Everywhere the water was alive with fish, though the actual fishing was not so good, at least in my experience, as in the Santa Catalina group. We lay one night in Smugglers' Cove south of the east end in about thirty feet, but the sea came around the bend and formed a ground swell that late in the night rose, and, by dragging the anchor, forced us almost on the beach.

There was a little harbor called Alamo on the south shore three and three-fourths miles from Gull Island, large enough for sail boats. The next day we anchored at Forney's Cove, a mile east of Fraser's, on the west end. Here was a vast sand-dune having many evidences of ancient occupation. The surf was heavy, and we landed with difficulty. Not far from here we found an old ranch house or a shearing station with a telephone to the main ranch down the island. To the west a long reef reached out to a little island, honeycombed with caves. As the sea came in, bellowing and muttering, it shook the ledge, and I fancied I heard the booming guns of some galleon of long ago.

It added to the delight of sailing about this island to know that Cabrillo had landed here in 1542 — three hundred and sixty-eight years ago; Vizcaino and others centuries ago; and it did not require much imagination to refit the town sites with huts, to see the brown naked figures on the sands, and the high-bowed canoes coming in on the booming surf.

Antonio de la Ascension, the Carmelite draughtsman, laid out and mapped this very cove. He was here with Don Sebastian on the fourth of December, 1603. If you will look up this date you will find the reason. The channel of Santa Barbara with its "*deli-*

cioso" climate bears that euphonious name. What particularly inspired Charles the Third of Spain to gain possession of California was the report in 1767 that the Russians purposed to take it. Lower California had already been invested by the Jesuits; and now the one Superior General of the Franciscans, Fra Junipero Serra, — a faithful son of the Church, an indefatigable worker, — was authorized to begin the work of conversion. The splendid pile opposite Santa Cruz, known as the Mission of Santa Barbara, is but one of his monuments in these parts.

On very clear days one may see the Santa Ynez Mountains of Santa Barbara — a beautiful vision. Santa Cruz enjoys all the delights of the climate of Santa Barbara with some additional favors of less change between day and night. The highest temperature ever recorded is not over ninety-two degrees, and the lowest thirty-seven degrees. The difference between the monthly mean of July and that of January in Santa Cruz is ten degrees; Cairo, twenty-seven degrees; Naples, thirty degrees. The air is clear, pure, "*delicioso.*" Surely this is the land of *dolce far niente.* But I have said this of Santa Catalina, and I shall probably say it of Santa Rosa, to the west, toward which we are heading with sheets trimmed and the strong "trade" on the quarter.

CHAPTER XXIV

WILD BOAR HUNTING

IT is not generally known that the islands of Santa Cruz and Santa Rosa have colonies of wild pigs, the males of which attain large size, and when followed constitute game that provides no little excitement. Several parties have enjoyed wild boar hunts on Santa Rosa, using the rifle, the deep cañons of the island affording seclusion for some large specimens. Adapted to their life in the steep cañons and on the slopes of mountains they are very active, and the hunters on foot have to watch them with care, as the charge of a wild boar down a mountain side is not all that fancy paints it.

How these pigs were introduced into these islands is not known, but it is most likely that they are, like the wild hog of Florida, the descendants of hogs placed upon the islands years ago by the Spanish. I have chased wild and marvellously fast burros on Santa Catalina, and have often heard of the wild cattle there, one of which charged a friend down the side of Mount Orizaba, but it has never been my good fortune to see the wild boars of the islands, though I have looked for them in travelling over the interesting and attractive island of Santa Cruz. To hunt on any of these islands permission must be obtained, in this instance from the Caire estate in Santa Barbara; for permission to hunt on Santa Rosa the Vail estate must

be applied to. The following description, which appeared in an Eastern publication, gives the attempt of an Englishman to try East Indian pig-sticking at Santa Cruz:

"A party of hunters in search of otter and Indian relics landed at Santa Rosa some years ago and made camp on the beach. The guide, one Manuel Sarto, in turning the cakes one evening, stopped to listen.

"'What do you hear?' asked a member of the party.

"'*Ough*,' whispered the man, 'wild boars!'

"'Wild boars?' exclaimed the other. 'Why didn't you say so before? We will hunt them; it's the finest sport in the world!'

"'Sport?' rejoined the Mexican. 'Is climbing trees sport? That's what I do when I meet a wild boar.'

"'The sport of kings,' replied the hunter, who was an Englishman. 'I haven't seen a pig-sticking since I was in India. We will try it, Manuel; not you, but we, eh?'

"'Si, señor,' answered the Mexican, 'not I, but you. But I go if we get horses. These boars hunted the sheep when I was a boy, and my father was a shearer here.'

"It appeared that the herders who kept sheep on the island at this time had horses at the corral of the little ranch house, and were glad to have the hogs killed off. Three were secured and that afternoon the party, mounted on big Mexican saddles and armed with rifles, rode up the trail leading into the interior of the island. They reached a high ridge, then pitched down into a cañon filled with wild lilac, masses of the island greasewood, and cactus. There was a well-worn trail, doubtless used by the Indians long ago, and as it gradually pitched down the cañon grew deeper, the mountains seemed to shut in. Now and then flocks of valley quail flew up; the wild dove's voice rose on the air with its mournful *who-who-o-o*, and far away, coming up the cañon with rhythmic measure, was the sound of seas breaking on the west coast.

"Suddenly the cañon widened out and a little valley appeared, with cactus patches rich in green and brilliant yellow blossoms. The hunters had almost forgotten the object of their quest

when Manuel's horse leaped to one side, almost throwing him, when with an *ouf, ouf, ouf!* like escaping steam something big, hairy, bristling, and black dashed past them.

"'What's that?' cried the Englishman, coming down into his saddle again from somewhere.

"'I thought you had stuck pigs in India, señor,' answered Manuel, endeavoring to hold his bronco.

"'So I have, but —'

"'*Caramba!* Look out!' shouted Manuel, as *ouf! ouf!* sounded from the brush. 'He come again! He hamstring your horse!'

"It was too late. That cannon ball of bristles came bowling over the back track with a *wish! whoof! ouf! ouf!* and the bronco went into the air in lateral leaps with which the ordinary tenderfoot is unfamiliar. To their credit be it said, the two hunters were not dismounted. One horse went dashing up the side of the cañon, while the two others ran into the open, where they were checked, quivering, one of the animals holding up a hoof in pain.

"'That was sudden, like the toothache,' remarked the East Indian pig-sticker.

"'That is the way he is,' said Manuel. 'You see heem?' he cried to the rider up the cañon slope.

"'No, but I can hear growling and *ouf-oufing* somewhere. My horse is frightened out of a year's growth. I am going to shoot that brute on sight.'

"'That's the biggest boar I ever see,' answered Manuel. 'He ugly. You see old pig with young in the brush, and when anything comes along he jest drop his head and charge. Tusks like a shark. There he come!'

"*Ouf, ouf!* came hissing out of the brush. The broncos trembled and whirled, and the hunter on the cañon side vainly endeavored to hold his bronco facing the cañon so that he could bring his rifle into play. The animal was almost crazed with fear and sprang wildly up the side, a bunch of black hair following for several feet. Then the rider let the horse go, and turning, fired into the brush. The pig was seen crashing down.

"'Our turn next!' cried Manuel, who had tightened his

cinch and found that the pig had not touched his horse, but that it had run into a *choya*. Presently the hunter up on the cañon side got his frightened horse down.

"'If my horse had stumbled I believe that pig would have ripped him up,' he said. 'Did you see him? Bristles on his back half a foot high, tusks four inches long.'

"Manuel had dismounted and was cinching up the saddles and picking cactus spines out of his horse's legs. After he had finished and listened to the views of the hunters he said:

"'It's no use three hunting at the same time, somebody's bound to get shot or thrown. That pinto horse, he's going to buck the minute he gets his eyes on the pig, and it's the biggest boar I have seen on the island, old and ugly. I don't want to feel his tusk.'

"'Well, what do you suggest?' asked the East Indian pig-sticker. 'If I had a good lance I would not mind riding him down, but this — well, this is different.'

"'I say take him one at a time,' replied Manuel, 'and the rest hold off.'

"'That suits.'

"The words were not out of the speaker's mouth before a rustle was heard in the brush to the right, and with a tremendous *ouf!* the boar, which evidently had been sneaking up on them under cover, came at the trio like a cannon ball. It covered the twenty feet between them and the chaparral seemingly in a bound, and was among them before they realized it, striking to the right and left. Manuel being dismounted stood not on the order of going, but ran and scrambled up the slope of the cañon, while his bronco reared to avoid the animal, then ran away. The two other horses, despite the efforts of the owners, wheeled and dashed off, the boar after them.

"The hunter who had stuck pigs in India rallied first, turned his bronco, and forced it at the boar, which had stopped and stood, head up, a picture of fiendishness. It was one of the old-timers without question, combining the qualities of a Florida razorback with the savageness of an East Indian wild boar and the staying powers of a California island wild goat. Little wonder an every-day bronco, which had possibly never seen a pig in its life, objected to its presence.

"As the bronco moved up, broadside on, utterly unable to look the strange beast in the face, the hunter lifted his rifle and attempted to aim and hold the bronco in place at the same time. It was a difficult proposition. At the slightest let-up the horse would turn, frantic with fear. Then the hunter elevated his rifle with one hand and let it drop revolver fashion, intending to fire as it covered the game.

"Down it came, and just about as the hunter was about to pull the trigger, *wouf!* came the escaping steamlike note from the red, dripping mouth. The rifle went off, the boar charged, and the bronco jumped ten feet, it seemed to the two men looking on, and came down stiff-legged in an awful buck, sending the rider into the air. They saw the boar charge, and spurring their broncos they rushed down the slope to interfere. Manuel leaped to the ground with his rifle ready to fire and literally jerked the dismounted sportsman from the boar, which, however, was dead. It had died before it had an opportunity to use its tusks. The boar was a type of the savage bush pig, tall, long, and slender; muscular, with heavy crest, powerful head, and tusks long and sharp.

"'I don't know whether the bullet killed the brute or I crushed him to death,' said the hunter, 'but it was a close call for me. I have seen a wild boar in India run fifty yards with a hole in his heart. Levison, a man in my regiment, shot a big boar on the charge. The animal went by him, blinded in some way, and did not stop, but came for me, I being next in the trail. I tried to fire but missed, and just as the brute reached me it staggered and fell dead. I understand grizzlies will perform the same seemingly impossible feat.'

"Manuel hauled the boar into the shade, intending to return for the head as a trophy, and the party moved up the cañon, crossed over to the windward side, and stood on the summit, where the cool wind blew in from the illimitable Pacific. Following along a ridge they descended again, and Manuel led them into a long, narrow cañon which seemed to be populated with quail and doves alone. When they had reached the end of it, where a little mesa or bench appeared on the slope, a small pig was seen standing in the trail fifty yards ahead. It looked at them a moment, then turned tail, and with a *wouf*,

wouf! ran down the trail followed by several others. Putting spurs to the horses the men followed, when suddenly from out of the brush came a big boar that apparently did not propose to run. It was an easy pot shot, but the men determined to give it a chance for its life and moved on, while Manuel pushed into the brush to get in behind the boar.

"The boar seemed to drop out of sight, for when they reached the spot it was no longer there, nor could Manuel see it from the slope of the cañon. Suddenly came the *wouf, wouf!* as startling as the rattle of a snake, and again out of the brush charged the boar, with crest standing and ugly muzzle elevated. The horses broke and reared, frantic at the sight, but the riders managed to hold them. Then for some reason, unexplainable except for the intensity of Manuel's yell, the boar kept on and the hunters gave chase. It was a fine exhibition of speed to see this big, heavy pig run. The horses going at full speed were not able to reach it.

"'We have no use for this fellow,' cried one of the pursuers; 'try your rope on him, Manuel.'

"So Manuel, delighted at the opportunity, pulled ahead, unswung his lariat, and presently had it whirling about his head in a thoroughly graceful manner. At the psychological moment he let go and, in a way miraculous to the layman, caught the flying boar by the hind foot. The bronco settled back, throwing the animal cleverly.

"The boar filled the air with cries and maddened squeals, then quickly charged back along the line. Manuel was equal to the occasion. The cañon was narrow, there was no field for play, and he had no companion to rope the boar from the opposite side and hold it, as he had often done with bears in the old days; so he did the next best thing — twisted the rope around a tree and thus held the boar. It presented a savage spectacle. Its jaws were dripping with foam, its small, black, beadlike eyes gleaming with rage and fear.

"'Cleverly done!' cried the Englishman.

"After they had examined the old fellow, Manuel as cleverly released the boar, and with all the fight taken out of it the animal trotted off into the brush without even looking behind."

A writer in the *Overland Monthly* of May, 1893, gives an interesting account of the shearing season at Santa Rosa Island, and in referring to the wild hog says:

"The latter are very numerous and sometimes attack and kill the lambs. They are dangerous things for an unmounted, unarmed man to meet. Many hundreds are shot every year, but it seems difficult to exterminate them. The foxes are small, hardly larger than a domestic cat, and almost as tame."

CHAPTER XXV

AROUND SANTA ROSA

ROMANCE, tragedy, and pathos have been enacted on many of the Channel Islands lying off the shores of California. In the early years they were all the rendezvous of freebooters and adventurers. Reports of their riches in otter, gold, silver, and hidden treasure were carried north. The Russians came down from Alaska to prey upon the Indians; freebooters came from the Philippines and the East. In the early days the Spaniards turned the attractive island of Santa Cruz into a penal settlement, adding to the trials and tribulations of the Mission Fathers, the glorious old adventurers and Christianizers who came up the coast, walked, sailed, and rode under the banner of the Spanish king. No one who knows the coast from the islands to La Paz and from Los Angeles to Corpus Christi, Texas, and down through Sonora over the deserts, but must accord these old *padres* the full meed of credit. Some of us may differ with them, may object to the wiping out of the American Indian, may point to the almost utter extinction of the California Indians, as a protest against forcible conversion, and see in it extinction; yet as a great exploitation under the banner of the Cross, with a good object in view, the advance of Serra and his followers up the coast of California to Mexico, and the establishment of the splendid Mis-

sions from San Diego to San Carlos, and later those in Sonora and Texas and the Territories, stands as a magnificent illustration of human endeavor impelled by the Christian idea of upliftment. Eliminate the object,— the saving of souls,— and the mere physical act of penetrating through and over this arid region with insufficient equipment, depending on the country, marks the work of the early Spaniards and Mission Fathers as among the heroic achievements of mankind.

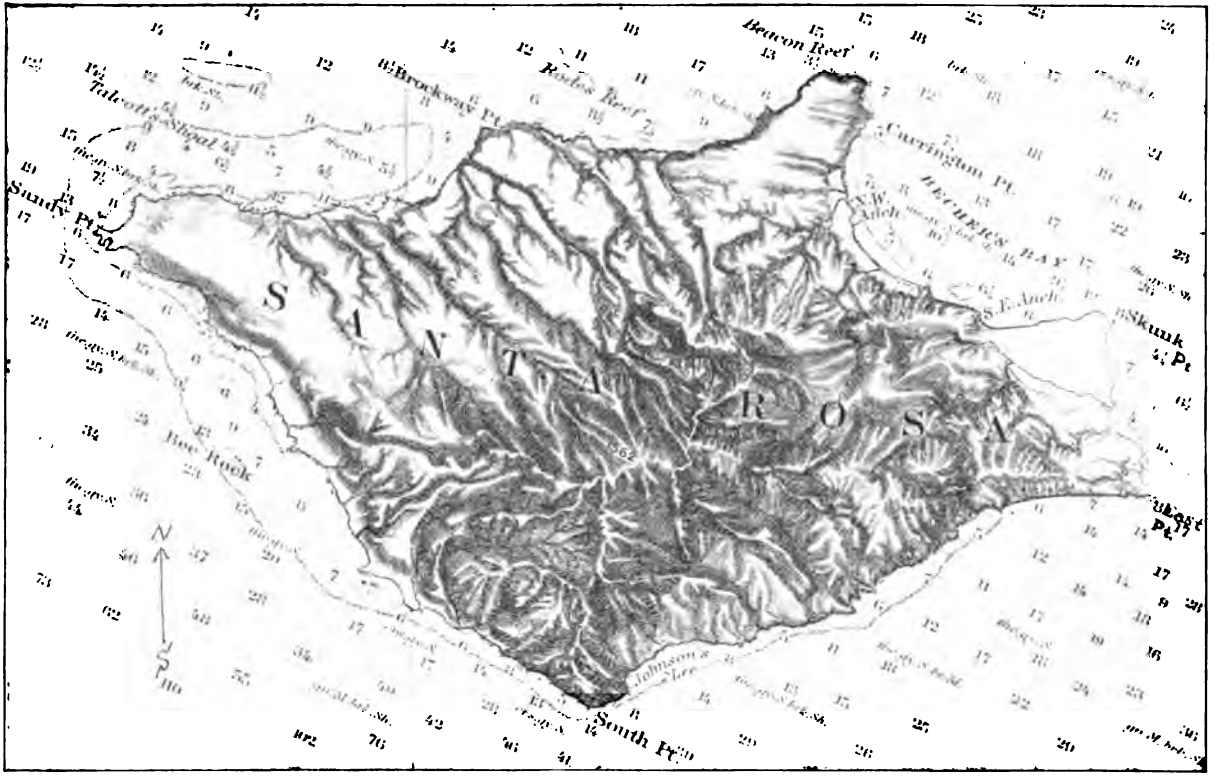
Strange happenings have taken place at all these islands. Wild invaders have vented their strength here; islands have been fought for. I have found the skeletons of dozens of men piled, one upon another, at San Clemente and San Nicolás where men have battled to a finish. Men and women have fled to these realms of seeming peace to escape the world; romance and tragedy have been born in every cañon. At Santa Catalina, on the west end, many years ago a man built a home, furnished it, even prepared a meal, and waited for the bride that never came. It is said that he stepped out of the house, leaving the table set and everything as it stood, and never returned. The house still remains.

Early in the sixties Santa Catalina was invested with a mining boom. The land was divided up, claimed, and tunnels built here and there along the shore and all over it. Silver ore was found in Silver Cañon. San Nicolás, the wind-swept, was laid out in lots in 1886. Desperate attempts have been made to wrest San Clemente from the Government and give it over to settlers; but men would not settle here on any terms, except to fish and enjoy the varied sports. And so, if one could collect the histories of all these

islands a marvellous story would be the result; and none more pathetic than that which saw the decimation of the natives who in the old days, before Cabrillo and Vizcaino, had on these isles of summer an ideal home and knew few of the trials and tribulations which attend modern life.

Santa Rosa, one of the most attractive of the Santa Barbara Islands, has been the scene of many a romance, from that of high-bred Castilians to that of half-Indian and Mexican herders. In 1541 it belonged to the natives; but in 1834 it was granted by the Spanish crown to Don Carlos and Don José Carrillo, members of one of the oldest and most aristocratic families of Southern California, whose descendants still live here. Don Carlos had two daughters, famed for their beauty and many graces. J. P. Jones, United States Consul to the Hawaiian Islands, met one at the Casa Carrillo in Santa Barbara and married her, while the other sister married Captain A. B. Thompson. The dowry of both brides from Don Carlos was joint ownership in the fair island — practically a domain of forty-five thousand acres, seven or eight miles long and ten in width; well watered, made up of mountain, cañon, valley, and mesa, with valuable fisheries. A princely gift even in the early days, and to-day valued at several millions even as a cattle ranch.

The two families owned the island jointly, and for years carried on the business of sheep-raising, then very profitable. The island ranch house was the scene of many gay entertainments, especially at the shearing time, when large parties of friends were taken over and the event celebrated by a jollification extremely picturesque from its interesting environment.



MAP OF SANTA ROSA ISLAND IN SANTA BARBARA CHANNEL

In time a disagreement arose, and after some litigation Santa Rosa passed into the hands of A. P. and H. H. More, prominent residents of Santa Barbara, who for years carried on a large stock ranch here. To-day it is owned by Messrs. Vail and McVicker, who also conduct it as a great stock ranch. I have seen a number of shearings at the islands, as parts of all of them have for years been given over to sheep-raising and a pastoral life, but in all probability these occasions at Santa Rosa were more typical than any; for Santa Barbara has retained its local color, through all the changes, and the parties of young people who sailed over to the island were representative of the old Castilian life.

The hacienda or ranch house of the Mores stands near a grove of cypress trees distorted and beaten down by the strong trade winds. From here one can look out on a little village made up of the various buildings appertaining to the business of shearing sixty thousand sheep — one of the largest herds in Southern California. Some years ago, under the More regime, fine stock and blooded horses were raised in large numbers for the San Francisco market. Here are great storing-barns and shearing-rooms, stables, pens, sheds, dining-rooms, and houses for the Indian and Mexican shearers, all not far from a little stream which flows down from the Santa Rosa Mountains to the sea, passing a big sandstone cave, once the home of the ancients, now the sleeping apartment of the shearers.

Forty or fifty shearers engage in the work. Some of the most skilful will shear one hundred sheep a day, and the scene, which can be seen any Fall at Santa Rosa, Santa Catalina, or San Clemente, is most

interesting. The men work in a long shed. As a man shears a sheep he throws the wool on a table and calls his tally. Some, and many of the men, sing all the while. At Santa Rosa in the old days there was a fandango at night, and after the shearing a barbecue and a hunt for foxes or wild hogs—at that time plentiful, and dangerous to unmounted men.

Santa Rosa is a delightful place to visit for an outing, and a month could be passed in exploring its varied points of interest. Like the rest of the islands, Nicalque, as it was called, had a large and extensive native population, and its great sand-dunes were formerly strewn with implements of stone and shell, while here and there skeletons were exposed by the blowing wind. Here, up to 1542, was an American Stone Age in all its purity. The natives had taken all the utensils from bone, wood, stone, and clay — stone clubs, stone arrow-heads, and spear-points; beads, hooks, earrings, and a thousand and one articles from the abalone shells, the meat of which afforded them their chief sustenance. Great ollas of stone, mortars, pestles, metates, grinding-stones, wheel-like stones used in games, and scores of objects whose use is only conjecture, hundreds of which have been gathered to form collections in the great museums of the world.

Here are the same eagles found at the other islands, and vast numbers of ravens, big and defiant, protesting at the invasion of the gringoes, or any one else, for that matter.

The channel between Santa Rosa and Santa Cruz is but five miles wide, hence the birds are the same, or very similar to those of all the Channel Islands, the

difference being that the farther out the less the number and species.

Climbing the highest peak, Monte Negro, 1565 feet, on a clear warm day, an inspiring view is obtained. To the north, the lofty Santa Ynez Range rises, and the other islands are seen east and west. The shores are high, precipitous bluffs, abounding in great caves and little bays, but there are no really good harbors. The east end is rocky and dangerous, as two-thirds of a mile out a rocky cone rises to within sixteen feet of the surface, and about two miles away there is a shoal with less than thirty feet. About two and a half miles from East Point there are sand-dunes two hundred and fifty feet in height, always changing in the strong wind, and once the home of hundreds of natives, who have left tons of abalone shells to tell the story. The extreme northern end of the island is known as Carrington Point; for nearly a mile it faces the sea with a bold and menacing front at least four hundred feet high, a notable sight from a long distance. Nearly the entire island is surrounded with nereocystean kelp, which constitutes a refuge for innumerable fishes.

Looked down upon from the mountain, Santa Rosa resembles a big ray fifteen miles across the wings or fins (east and west), and ten from head to tail (north and south). Away to the west end, at Sandy Point, a splash of white tells of sand-dunes, and they are almost mountains, rising four hundred feet high. Off here is a dangerous shoal, Talcott's, with but eleven feet of water over it, a mile and a half offshore. South Point is formed by a great arm of the mountain, which Santa Rosa seems to be. Here the bluff is one hundred feet high, and lofty cliffs extend alongshore for

half a mile, against which the sea breaks in storms, making a fine display. Johnson's Lee is a fair anchorage in a west wind, near South Point, and there is a sixteen-foot dock in northwest anchorage found in the western end of Becher Bay, near Carrington Point. In heavy weather a vessel would doubtless have to go to sea or dodge the winds about the islands, but in summer only strong west winds are met with, which rise in the morning and die down at night.

On Santa Rosa the verdure is similar to that of the neighboring shore, — no large trees, but well-watered cañons filled with holly, greasewood, ironwood, and many interesting plants indigenous to the region. After heavy rains the grasses cover the open spots; in a short time the flowers are in bloom, and we have a garden out at sea, parts of which are very beautiful.

The animals found here are similar to those on the other islands; the fox is common and a Santa Rosa species. Aside from mice and a few lizards this is the limit of the small animals. There are extensive sea-lion rookeries, and sea birds of many kinds make their home here, finding protection in the isolation of the place. Years ago pigs were placed on the island and are now "wild hogs," according to an authority on the island, dangerous to approach or hunt on foot.

The island abounds in fine fishing, especially in Spanish mackerel (oceanic bonito), whitefish, sheepshead, and yellowtail. Here is the ground of the professional fishermen from Santa Barbara, Larco being the best known. He takes parties over from the mainland and knows the islands well. The great black sea bass and all the fishes described in this

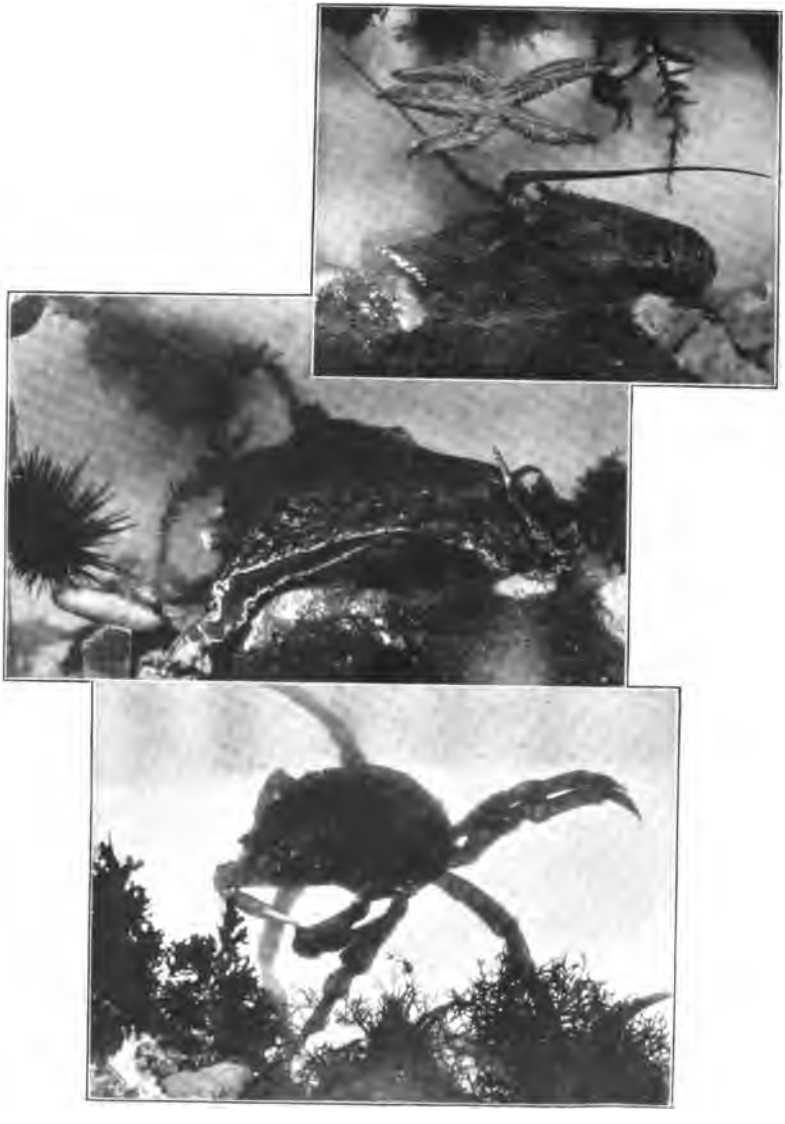
volume are found here. The rocky shores abound in crayfish, limpets, mussels, crabs, and abalones.

This island has been of interest to geologists, as some years ago the teeth of a big elephant were found here, showing that the island had not so long in the past been connected with the mainland. The island is rugged, yet on the higher places or the main ridge one may ride for nearly four miles without rising or descending more than one hundred and seventy-five feet. On some of the beaches numerous whale bones are found; and I was told by persons familiar with the island that a few years ago during a terrific storm a school of large California gray whales came in, evidently confused, and ran high and dry on the beach, where they were captured by the herders and the oil and bone secured. That the early inhabitants were successful whalers is evident from the whale bones found on various islands, though how they took them with their kelp ropes and flint spears is a matter of conjecture.

Santa Rosa is particularly rich in its valuable market food-fishes of the kind known as rock-fish or groupers. They are taken on banks, in deep water. The black-banded rock-fish, tree-fish, corsair, orange rock-fish, beach rock-fish, yellow rock-fish, flesh-colored rock-fish, red rock-fish, grass rock-fish, and green rock-fish, are a few of them, all fine food-fishes. Down the Kuro Shiwo, or the Black Current of Japan, come many rare fishes, some known in Japan as the Japanese swordfish, the Japanese albacore, the ribbon fish,— from deep water, which attains a length of twenty-five feet and a width of a foot. I have seen three or four of these rare creatures, and one over twenty feet long

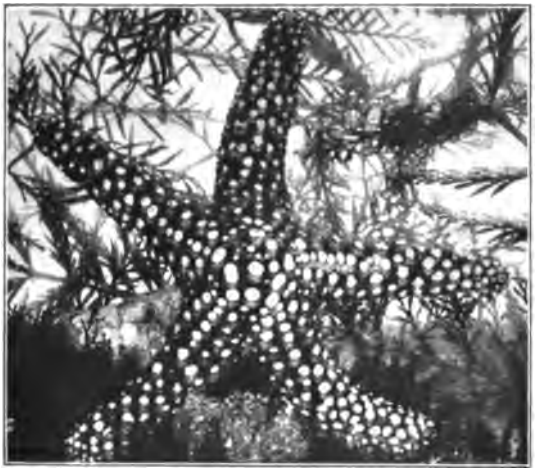
went ashore at Long Beach. In the deep rocks devil fishes are found ten or fifteen feet across, and a giant squid was once discovered so large that it could not be towed in by a power launch. Animal life seems to have reached its maximum in number, size, and abundance in these isles of eternal summer.

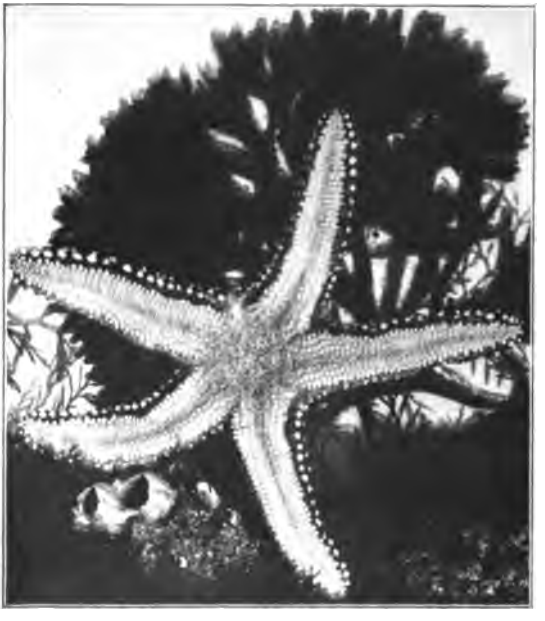
In these pellucid waters you will see the big sunfish and the Japanese swordfish (*Tetrapturus mitsukurii*), leaping, — perhaps to escape the swordsman; the Xiphias, which attains a weight of six hundred to eighteen hundred pounds; the hugh basking shark; the long-tailed thresher (*Alopias*), and many more. Along the sandy beaches are the little surf perches, found nowhere else, whose young are born alive. Even the sea horse of these waters is a giant. Occasionally we see the game rooster-fish, so common in the Gulf of California, while the Christmas perch and the banded bass are among the really beautiful and not rare sojourners along the deep forests of the islands. Rare, and but once taken with a rod, is the radiant opah — the most beautiful fish, to my mind, in the world, — the king of the herrings, and so unlike anything about a herring that no one would think of it but the story-teller among the Indians, who believes that the herrings selected this gorgeous creature with its vestments of silver and old rose as king. Surely it is the king of beauty. I have seen but three in twenty years, and with one, or on the same day, a ghostfish, a fish like a ribbon of silver. I was so fortunate as to keep it alive for hours and secure its picture — the only one, I fancy, ever taken. These are but a few of the wonders of animal life you may find on the beaches and in the beautiful sea caves and along the kelp beds of



SPECIMENS ON THE OCEAN FLOOR

Crayfish — Sea hare — Deep sea crab





GIANT STAR FISH, UPPER AND LOWER SURFACES

Santa Rosa and all these islands, bathed by many and varied conditions, and in the "Mikado's Highway," the Kuro Shiwo, or Black Current of Japan.

In among the rocks are giant starfishes a foot across, hermit crabs, giant spider crabs, and smaller ones that live in the kelp and mimic it so marvellously that you may pass them by. This is the kelp crab which has a red cousin, a half land and half water relative, which occupies every crevice, nook, and corner. The sea hare (*Aplysia*), that in Florida is as large as one's hand, here weighs ten pounds, ejecting its cloud of purple ink when rudely touched. Sum up all the marine forms you know in the Atlantic and Mediterranean and nearly double them, and you will have the marvellous list of animals of the sea found in these blue waters that ebb and flow about the Channel Islands.

The shallow channels between San Miguel, Santa Cruz, and Anacapa are favorite haunts of whales. The Pacific sulphur-bottom (*Sibbaldius sulfureus*), the Pacific humpback (*Megaptera versabilis*), the finback (*Balænoptera veliferra*), and the California gray (*Rhacianestes glaucus*) have all been seen here, besides the two killers noted in the Santa Catalina Channel, the dolphin (*Delphinus*), the cow-fish (*Tursiops*), and the porpoise. It is believed that two species of sea-lion are found at Santa Rosa besides the harbor seal, the former *Zalophus Californianus*, and Steller's sea-lion (*Eumetopias stelleri*).

The wealth of animal life around these islands is beyond computation. Three turtles of large size are often seen — the great ribbed leather turtle, the Pacific green, and the loggerhead. The leather turtle is an

oceanic pelagic form and rare anywhere. I have seen three large ones taken in this or the South Channel. One had its mouth clogged with asphaltum which it had tried to eat. There is a story, and very appropriate it is, to the effect that old tars can recognize the vicinity of the Santa Barbara Channel by the smell of asphaltum. It is found on the rocks of all the islands, oozing out of the bottom at various places and drifting away. On the mainland coast, opposite Santa Rosa, oil rises and produces a perennial calm; while north of Santa Barbara, on the More estate, there is a vast area of asphaltum which crops out on the beach in such vast quantities that vessels are loaded with it with very little difficulty.

This asphaltum was of vast importance to the early natives. With it they stopped the holes in abalone shells and made dishes, and they employed it for all the purposes for which a white man uses glue; and there is a wonderful deposit near Santa Monica, on the Brea ranch, in which many ancient animals have been found.

Santa Rosa is well watered; in one of its attractive valleys flows a little river rippling musically down to the distant sea.

A writer in *The Overland Monthly* of May, 1893, says:

"Santa Rosa has an area of sixty-four thousand acres, well watered, and intersected by deep valleys where the animals may always find shelter. Like the others of this group it is evidently of volcanic origin. Masses of black conglomerate stone, evidently fused by great heat, show themselves frequently, and lava can be found in places. Some trees are in the cañons, and a variety of small oaks covers much of the steep hillsides; it is curiously twisted in its growth and seemingly

never decays, as the bleached stems cover large places where the sand drifts, and nothing now grows. A kind of ironwood, peculiar to the islands, is found here; it has beautiful fern-like leaves, with a slightly aromatic smell. Another large plant, with leaves like sweet anise, rising in a green parasol from a thick fleshy stem, was also a stranger to the visitors. The wild flowers were not in bloom, but are said to carpet the ground in great profusion. The constant action of the wind has worn the sandstone and clay cliffs and exposed edges everywhere into strange caves, grotesque carvings, and little nooks; in the latter the foxes find a charming home, and in one boulder standing apart in Cañon Verdi is a room large enough for half a dozen sheep to stand, and keep their fleeces dry during a sudden shower.

"Several picturesque natural bridges are formed by the action of the tide and the surf, which is so much heavier there than on the mainland in that vicinity. In the crannies of the rocky shore are thousands of abalones, of whose dried flesh and shells the Chinese fishers ship many tons to their countrymen. When alive the abalone is a pound or less of very unpalatable looking black life; and dried, it looks and feels like the heel of an old boot. Immense sea urchins and starfishes, anemones, crabs, and spiky little fishes are in the pools. Excellent fish of several kinds are to be had for the catching, and for some reason are better than those caught nearer the mainland. Clams, mussels, and sometimes crabs, are to be had, but the large ones were very wary, perhaps because the men had then so much time to hunt them. There were over seventy men employed, — more than usual, for the broken pier was being mended laboriously from the sea end, where the pile driver was left standing when the rest was washed away."

A number of interesting fossils have been taken from Santa Rosa, as the teeth and bones of a prehistoric elephant (*Elephas americanus*), and the following shells of the Pliocene: *Saxidomus*, *Callesta*, *Lucina*, *Turitella*, *Mactra*, *Glysineris*, *Hinnites*, *Ostrea*, *Pecten*, *Liro pecten*, *Turbinella*. At Santa Catalina but

one has been found (*Pecten estrellamus*), which was uncovered when the stage road was cut through the mountain just before it tips down into the Isthmus. There is a large deposit of infusorial earth or chalk at the Isthmus on the south side, perforated by caves; where the earth is cut away it comes out clear and white. One very large cave occurs here; to the right, not far away, is an outcropping of "red paint," from which the Indians made their color, which Mexican Joe pointed out to me years ago.

CHAPTER XXVI

SAN MIGUEL

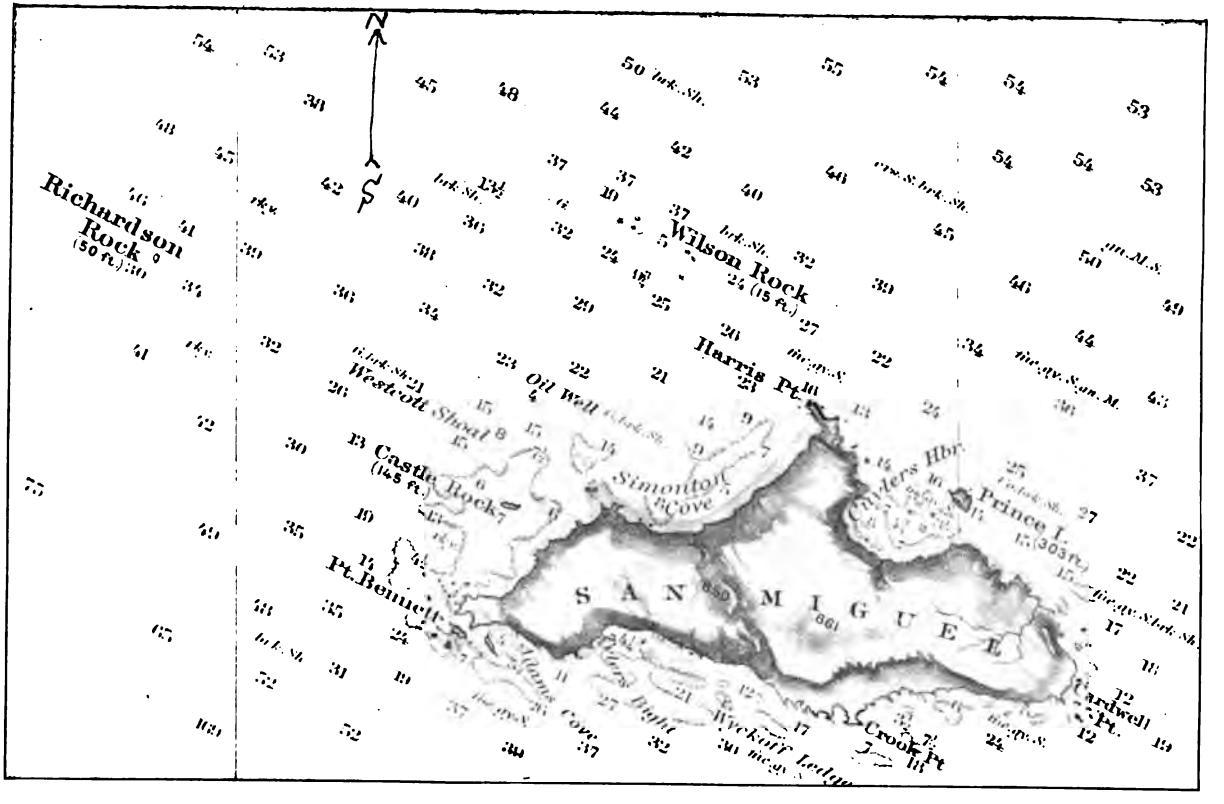
SAN MIGUEL, the property of the Government, lies to the west of the Santa Barbara group, and is so near Point Concepcion — but twenty-one miles distant — that it is more exposed to the winds than the others, and is a most dangerous place for shipping. Something must have happened to the island since 1542, as, according to his log, Cabrillo spent much of his time in Cuyler's Harbor, on the northern shore, one and one-fourth miles southeast of Harris Point, and here tradition says that he died and was buried. Why Cabrillo should remain here when the land-locked harbor at Santa Catalina afforded perfect anchorage all the time, and Avalon Bay a good anchorage almost every day, is a mystery which can be explained only on the supposition that the island has changed much since then. San Miguel is being swept and devastated by extraordinary sand rivers and dunes which are flowing down into the harbor, and have played some strange tricks. A schooner which a few years ago lay in shallow water is now high and dry in the embrace of a sand-dune, and these strange whimsicalities of the wind seem to be claiming the island for their own.

The island is but three miles from Santa Rosa, across a turbulent channel. It is about seven and one-seventh miles long, east and west, and about two miles

wide, the land rising in two peaks in the centre, eight hundred and sixty and eight hundred and fifty feet high. It has few beaches; its shores are bold and rocky; and the western end, when the wild wind comes tearing in, is the true lair of the sand-dune. There are no trees, and but few bushes of any kind, the chief verdure being grass of a long, coarse variety which thrives here. After the rains wild flowers of various kinds appear, and the assumption is that years ago San Miguel may have been well wooded like the rest of the islands, but is now being blown into the sea.

As you approach from Santa Rosa across the channel, the east end is seen to be a cliff about forty feet high, known as Cardwell Point, and from it a bad reef reaches out for half a mile. About two and one-half miles northwest from here is the famous Cuyler's Harbor where Cabrillo is said to lie. Scores of attempts have been made to find the remains and give him suitable honor as the discoverer of California, but so far without results, and some have claimed that Santa Catalina was meant. I believe the only city in California that has honored Cabrillo in any way is San Diego. On one of his anniversaries this city held a celebration that was a credit to the State; but the State should come to the front and erect a suitable monument for Cabrillo at the port of Los Angeles. Deadman's Island could be carved into an appropriate base for the heroic statue that should be placed there or somewhere for the man who discovered Southern California and gave it to the world.

A large island lies off Cuyler's (Prince). It is about three hundred and three feet high, a good monument



MAP OF SAN MIGUEL ISLAND IN SANTA BARBARA CHANNEL

to Cabrillo in itself; until the real monument is built I propose that we substitute "Cabrillo" for "Prince." It is characteristic of the old adventurer and geographer; it faces the sea with a bold and changeless front. Cuyler's Harbor, where Cabrillo is supposed to lie, is on the north shore of the island facing the mainland and about a mile by two-thirds of a mile in extent, the best anchorage at present being in the western part, opposite the spring. There is landing for small boats at various places, especially at Crow Point, Tyler Bight; but the island abounds in rocks, small islands, and shoals, and should be approached carefully in heavy weather. Over it are the same kinds of shell mounds that are found on the other islands, showing that in the early days the place was the home of many Indians who lived well and easily on the vast fish supply of the surrounding waters.

To-day the island has but one or two inhabitants, herders, who care for the sheep; and it is a singular fact that while the name Dry Tortugas was considered a terror to prisoners during the war, it was an agreeable place compared to San Miguel or San Nicolás as a permanent residence; yet it is easy to find men who will live there by the year or ten years, as the old Basque of San Nicolás; O'Reilly of Mosquito, who lived alone at San Clemente for years; and old Gallagher of Gallagher's. Nearly all the islands have had scores of characters living on them in years gone by.

The San Clemente Channel is a rough place at times, yet Gallagher crossed it with a skiff with a flour-sack sail, and the last time I saw him he came sailing into Avalon Bay with his poor skiff, a goat, four or five

hens, and a dog. These he boarded out until he made up his mind to return, which he did at night, rowing the skiff the thirty miles.

San Miguel is fascinating in its barrenness. It is worth while to visit it to see the sand-dunes alone, and the sand rivers down which one can slide and toboggan as upon snow.

One cannot look upon the human remains, the skulls and skeletons, without wondering where the natives went, or what accomplished their extinction, as within a century and a half the inhabitants of all these populous islands have disappeared. According to some, they were killed off by the Russians, Americans, or Alaskans who came down the coast yearly after sea otters, with which this coast abounded in the early part of the nineteenth century. These people, according to tradition, paid no attention to the inhabitants, shot them down, and robbed them on a free-booter plan for mere amusement. The proof of this lies in the statement of Captain Nidever of Santa Barbara, who stated that years ago he was followed by two boat-loads of Aleutians from a large vessel. Nidever landed and from a fortified camp put up so good a fight that the northerners, after losing a number of men, made their way to their vessel and sailed. The Mission Fathers also stated, according to Mrs. C. P. Austin of Santa Barbara, to whom I am indebted for the fact, that the Russians came down the coast every year for seals and otter, and that the natives were plundered by them.

To me a more plausible explanation of the disappearance of the natives is that the Mission Fathers induced them to give up their island life and settle about the

missions, to be within reach of their teachings. There is no evidence that a mission was ever built on any of these islands, though a primitive one was of course possible; but the splendid buildings opposite the islands, with their rich ranches and cattle, as Santa Barbara Mission, San Buena Ventura, San Fernando, San Gabriel, San Luis Obispo, San Luis Rey, and San Diego, all with thousands of head of stock, and good living, and within sight of the islands, — must have been an alluring attraction to many of the island natives; and while many were killed in war, swept away by disease or by the invaders, doubtless the majority ultimately went to the various missions where they soon lost their identity.

San Miguel will impress the visitor for its many satellites, little rocky islands about it, often tremendous needle-like peaks rising out of the sea from deep water, the home of the eagle or osprey. Many are colored white by the cormorants; in a fog one can readily imagine them ghostly ships, or the phantoms of the many craft that have doubtless met their fate here.

In a general way the Channel Islands, so far as the large ones are concerned, number twelve: three Coronados, four Santa Catalinas, and five Santa Barbarans; but to give the islands their full dues would be to include them all, and there are about thirty-five islands, big and little, from wind-swept San Nicolás to Los Coronados. The largest of the small ones is the rock of Santa Barbara, about twenty-one miles north of Santa Catalina. It can be seen over twenty-five miles at sea, being five hundred and forty-seven feet high, resembling a great rounded rock. Approaching, its

shores are seen to be high and precipitous. A third of a mile from it to the southwest is another small island two hundred and fifty-seven feet high; and one-fourth of a mile from the northwest end to the west is a smaller one rising one hundred and twenty-five feet. This island is almost bare in summer, with no water, but after the winter rains grasses and other verdure appear. It is an interesting place for the bird-lover, as many sea birds, — for example, tufted puffins, — nest here. Baird's cormorant lays here in inaccessible places; and there are extensive rookeries of Brandt's cormorant, just above the water-line at the foot of the cliffs, as I found them at Santa Cruz. The big filthy nests were so near the water that many drowned young were seen. The black petrel doubtless breeds here in the auklet burrows, and the Farallone cormorant, the eggs being found on May 15. All the gulls, the brown pelican, and the murrelets are found on the little island, and the pigeon guillemot, according to Mr. Gaylord, nests in the caves on the north side of the island. One of the most interesting birds here is Cassin's auklet, which I have caught in Avalon Bay. The southwest side of the mesa from top to summit, according to Gaylord, is crowded with their burrows. The birds are not seen during the day, not coming ashore until about eight o'clock at night. There are no trees even by courtesy, but mourning doves, bald eagles, horned larks, ravens, Western meadow larks, house finches, Santa Barbara song sparrows, myrtle warblers, magnolia warblers, Townsend's warblers, hermit warblers, pileolated warblers, rock wrens, and russet-backed thrushes were observed here by Mr. Horace Gaylord on the Pasadena Academy

of Science expedition some years ago, and doubtless many migrating birds stop here. Preying on these birds are forty or fifty cats, the progeny of a pair left here by some fishermen years ago.

The scenery about this little island is picturesque. There are caves in great numbers, and an arch large enough for a yacht to pass through at the northeast point, where the wild sea moans and complains. Near here is a two-chambered cavern thirty feet high, in which cormorants and guillemots lay. In this cave or chamber fresh water drips from the ceiling, according to J. R. Britton, who has examined it carefully. This furnishes the only supply on the island. A number of sheep live here and doubtless sustain life by drinking this and sparingly of salt water. A similar instance I frequently observed at San Clemente. There are arches through the rocks, double-barrelled ones high above the sea, and the northwest point seems to have been riddled by the action of the waves. Gulls lay their eggs in the brilliant ice plant masses.

Around Santa Catalina there are several small islands, the largest being Ship Rock off the north coast; and at the entrance of Cabrillo Harbor is Bird Island. Other small islands are, the Cone, at San Clemente, Castle Rock, Wilson Rock, Prince Island, Can Rock, Richardson Rock, San Miguel, Begg's Rock, White Island, Church Island, and others, their only inhabitants being cormorants, ospreys, and sea-lions.

There are many interesting fossils found at San Miguel; as *Mytilus clementia*, *Turitella*, *Conchocla*, *Callesta*, *Sandella*, *Turbinella*, all found by Voy and determined by Cooper.

In extending a yachting trip from Santa Rosa to San Miguel one will do well to observe the precaution of taking a local man, like Larco of Santa Barbara, or some fisherman who knows the island and its winds and currents.

CHAPTER XXVII

THE GLASS-BOTTOMED BOAT

THE old tar who described his ship, the *None Such*, to a landsman as having three decks and no bottom, would doubtless be surprised to see how near modern invention has copied his description, as the glass-bottomed boat in its evolution has two or three decks and almost no bottom, in place of which are great panes of glass or windows down through which the bold navigator looks and sees the wonders of the deep.

Many years ago I used a glass-bottomed box on the Florida Reef for collecting rare corals, and when something was seen in fifteen or twenty feet of water we dived down and brought it up. In this way I had delightful experiences and came in a few years to know the great reef about Garden Key like a book, all from these submarine excursions, soon being able to remain under water a minute, a short time compared to the Japanese or Hawaiian divers.

When I first visited the Channel Islands of Southern California, some twenty-two years ago, I was impressed with the beauty of the kelp beds and the marine fauna. I had a large glass-bottomed box made, and also planned a glass-bottomed boat and described it to a boatman. From this, and doubtless the suggestions of others as well, has grown an extraordinary vocation, that of the glass-bottomed boat. The capital invested

in all probability is nearly one hundred thousand dollars; and the income is a good and increasing one, due to the fact that the attractive island of Santa Catalina is the Mecca for thousands of tourists annually, most of whom go out in the glass-bottomed boats.

When you land in the beautiful Bay of Avalon, about thirty miles from Los Angeles, you are met, not by hackmen, but by men with glass-bottomed boats. "Here you are! Marine Jimmie's boat." "Take the *Cleopatra!*" or "Right away now for the *Empress* and the Marine Gardens!" The ocean steamer is met in the bay by these strange craft, which look like the old-fashioned river side-wheelers. Some of these boats are made on the island, and range from row-boats with glass bottoms to large side-wheel steamers valued at thirty thousand dollars. There is a fleet of them, big and little, and they skim over the kelp beds, and have introduced an altogether new variety of entertainment and zoölogical study combined.

The boat is made by having the bottom to the extent of the boards beside the keel to the width of three feet from bow to stern replaced by thick plate-glass, set inside of a railing so that the glass cannot touch the bottom; even if it did, the observer looks down through a well, his elbows comfortably resting on the padded edge. As the boat moves slowly along, every object on the bottom can be distinctly seen, as the glass magnifies it.

The submarine scenery is particularly attractive here. The entire island, nearly sixty miles around, is lined with a forest of Nereocystis, or kelp, a huge vine, whose leaves rise and fold and unfold in the water, the abiding-place of countless animals of all

kinds. This fringe rises in deep water ten or twenty feet from the rocks, and inshore are myriad forms of algæ of various colors, to which the skippers have given fanciful names, as the Yosemite, the Grand Cañon of the Sea, the Great Divide, etc., all of which adds to the piquancy of the amusement.

The divers often follow the boats around and, for a bit, will dive for haliotis shells. As the boat moves over the shallow water of Avalon Bay, exclamations come quick and often, as one scene melts away and another appears, and the entire range of color is exhausted before the trip is over.

The fauna of this region is particularly interesting, as many of the animals seen are peculiar to it. The illustrations in this book are from photographs taken under my supervision, and show the various animals that are seen through the glass-bottomed boat, alive and under water. Care was taken to show the natural environment as nearly as possible, and they are the first photographs of the living Pacific Coast fishes ever made, each one being the result of repeated trials, made in a specially designed tank to show exact facsimiles of the glass-bottomed boat scenes. I once sent a diver down into Avalon Bay and followed him around in a glass-bottomed boat. It was a remarkable spectacle to see this man walking on the bottom of the sea, pushing his way through the kelp forest. After a while he sat down, crushed a sea-urchin in his hand, whereupon the small fishes gathered about and fed from his palm. Then he opened a wire trap, which I had provided, placed the bait inside and held it for a moment, or until a number of fishes (gold perch) entered. He then closed the trap, and seeing that the

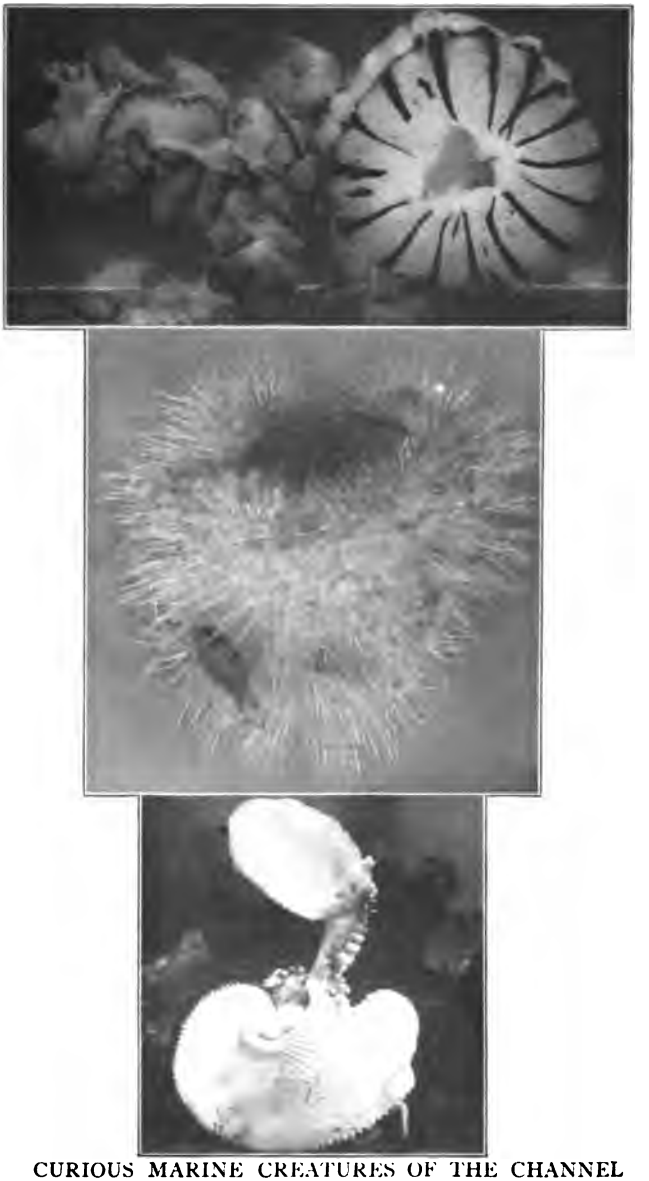
game was snared, I pulled it up. Altogether this little act beneath the sea was very interesting. Here the kelp itself forms a beautiful picture, its rich olive hue when it catches the sun looking not unlike a great band of amber against the vivid turquoise of the water, as deep water is so near the shore that often one can dive into blue water from the rocks.

A common form in the weed is the giant California starfish, its white tubercles against the pink or red surface making it a striking figure against the green, red, or purple weeds. Near it will be seen the large California sea-cucumber lying on the rocks, prone and motionless, and near by the long-spined sea-urchin, very similar to the one of the Florida Reef, though not so long. With it is a small, pure white sea-urchin from deeper water, a charming contrast to the green weed that is in constant motion, undulating in the waves that affect even this quiet bay.

We now drift over a rocky area where the water appears to be a pale blue. A reddish-yellow crawfish waves its serrated spines back and forth from a crevice, and passing before him is a hideous octopus, searching for crabs or anything that it can lay its tentacles on. This, without question, is the most fascinating animal to be seen through the glass window. Timid, constantly changing color, hideous to a degree, having a peculiarly devilish expression, it is well named the Mephistopheles of the sea, and with the bill of a parrot, the power to adapt its color to almost any rock, and to throw out a cloud of smoke or ink, it well deserves the terror it arouses. The average specimen is about two feet across, but I have seen individuals fourteen feet in radial spread, and larger ones have

STRANGE ANIMALS OF THE CHANNEL ISLANDS

Salpa (luminous) — Young perch — Black jelly-fish — Santa Catalina turtle — Pteropod (luminous) — Giant sea anemone — Paper nautilus



CURIOUS MARINE CREATURES OF THE CHANNEL ISLANDS

Giant jelly-fish — Rare glass sponge — Paper nautilus

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been taken in deep water offshore. The strength of the octopus is extraordinary. Several kept in confinement by me have almost succeeded in holding my hands despite all my strength. The Paper Nautilus (Argonaut) is common here, and I have kept several alive for some time, and their "shell"-making has been observed.

A relative of the octopus, the squid, is often seen here ten feet long. One kept alive by me for a while weighed two hundred pounds and was eleven feet long, presenting a marvellous flashing of colors over its body that could be compared only to chain lightning.

In the crevices of the rocks you may catch brilliant flashes of vivid red. This is the Garibaldi, a fish resembling to some extent the angel-fish of Florida, but peculiar to this coast. It is very sociable, and comes out, eying the boat and doubtless familiar with the strange double row of faces that are looking down at it. The adult Garibaldis are one color, a brilliant golden red; but the young, which can be seen in the crevices, are dotted with brilliant blue, and the skipper calls them "electric fishes," and tells you the spots give out light.

Suddenly the boat passes over a white and pink jelly-fish. It is two feet across the disk, from which drifts away a wonderful fluted mass of shrimp pink tentacles ten or fifteen feet long. Some of these jellies have been seen with tentacles from twenty to forty feet in length, a veritable comet, and at night a phosphorescent meteor.

Near by is another jelly something like this, but almost black — a deep maroon in color. The skipper

holds the boat over it, and every motion of the curious creature is seen as it opens and shuts and pumps its way through the clear water. Countless small jellies fill the water at times, most graceful shapes, some that have never been described; others rare elsewhere are common here. Such is the Pyrosoma, one of the luminous compound ascidians. It is a barrel-shaped animal with one end open. Specimens six feet long have been seen. Dr. Moseley, the English naturalist, describes one which he placed on deck, writing his name on it and seeing the letters come out in lines of fire. The Bay of Avalon is sometimes filled with them, and now we see them pumping their way along beneath the window-like crystal vases, with other luminous forms, as the giant Salpa; the latter now singly, now in chains, among the most beautiful of the phosphorescent animals.

A striking fish is the sheepshead, with black and crimson bands in the male, and gray in the female. The young are attractive little fishes splashed with blue.

At times, after great storms, the voyager, peering down through the glass window, sees strange and weird animals new to science or so rare as not to be seen alive by one in fifty thousand. Such is the deal fish, seen lying on a weed, about three feet long, a band of purest silver; when it moves or swims it appears to undulate like a ribbon. Specimens of an allied form twenty feet long or more have been found near here. The fish lives in the deep sea, doubtless, and only at rare intervals comes to the surface to be seen or caught in the nets of the fishermen.

As we drift along, the rocks are now seen to be

covered with seeming flowers. They are sea-anemones, here of the largest size, virtual giants, and when open, with all their tentacles expanded, the flowers of the sea certainly, in shape and color. In these big anemones, which are cousins of the corals, a little fish lives, darting into the mouth and living in the stomach or intestine of the animal. A long, slender fish also lives in one of the sea-cucumbers which we have always in sight, the *trepang* of the Chinese; in Malay it is an article of export. Here, also, are small starfishes, some like snakes, uncovered by the waves as they come slowly in. Near them, its head projecting from the crevice, is the moray, a big eel-like fish four feet long, with fangs that call to mind the rattlesnake, — a ferocious fellow that strikes like a snake and is to be avoided.

Some of the fishes here, as the Indian-head fish, appear to have outdone themselves in the richness of their coloring, blazing in blue and red, while the dorsal fins are really plumes dashed with blue or black. The eye of this fish is large and a vivid blue. Over them are two antennæ which move about in a comical way. Crawling in the weed are big crabs, gigantic pseudo-spiders; and by examining the kelp and other weeds carefully, curious crabs are found which mimic their surroundings so exactly that some experience is required to see them.

Many of the fishes seen through the window are mimics of remarkable cleverness. When the slow movement of the water overturns the kelp and brings it back again, we may see a green fish about a foot long, with a long frilled, dorsal fin. This is the kelp fish. For protection it mimics the leaf; and, not only

this, you note that it hangs in the water just like a leaf, head up or down, so that a novice would never see it unless his attention were called to it by the attentive skipper.

Drifting along, the passenger in the glass-bottomed boat often sees the large pelagic fishes, as the yellow-tail, white sea bass, or the giant black sea bass, which weighs four hundred pounds and lives in the kelp beds of the Channel Islands. Sharks are also sometimes seen, and on the bottom, coiled up in some snug harbor between the rocks, may be seen a very interesting shark called the Catalina Port Jackson shark. It is about two feet long, with a spine before each dorsal fin. It is sluggish and feeds on crabs at night, and lays a peculiar corkscrew-like egg. For years this shark was supposed to be extinct and known only by its fossil spines; but some one went to Port Jackson, Australia, and found them alive; then a species was discovered on the California coast. It is one of the common catches in traps at the islands, and its curious eggs are sold as curiosities and are hatched in the aquarium.

On the bottom we see rock-like objects which prove to be sculpins, so mimicking the rocks and stones that at times it is impossible to distinguish them, as they are covered with curious barbels, which look like weeds, and are black, red, yellow, and white, perfect imitations of the rocks on which they lie, ready to take any kind of a lure. If a panorama had been arranged it would not appear more artificial, as at every move of the glass-bottomed boat something new is seen through the window, as if prearranged. The scenery changes every moment, and there is a slight

ground swell, just sufficient to lift the curtains of the weed and move them to one side, then back again. Strange things constantly appear. Now the vista is green. Presto! the tidal scene-shifter makes it purple of a gorgeous hue; then comes a cavern of the sea, "In gulfs enchanted where the Siren sings," — faced with a most delicate green, in which swim blue and gold fishes.

Drifting out a little, into water thirty feet deep, we see that Santa Catalina is a big offshore Sierra, as we can now look down the precipitous slopes into water of an indigo blue shade, the most exquisite blue imaginable, with a background here and there of dim shadowy shapes. Only those who have been divers or who have gone on a cruise on a Santa Catalina glass-bottomed boat can appreciate their real beauty. Lying on one side is a mass of peculiar mazarine blue. In a moment we make it out as a school of blue-eyed perch of California, a fish about a foot long, with eyes like turquoises. In the peculiar light that sifts down through the kelp they appear blue, and are all headed in the same direction and lying near the bottom.

In mid-water are countless kelp fishes, graceful swimmers, while below them there are others still more radiant in yellow, white, brown, and red. They lie upon the rocks as shown in the photographs. Sometimes a shark sails slowly along with its remoras, or sucking fishes, following or fastened to it. They will often wander away and look curiously up into the big window down into which peer scores of faces in a row.

The big glass-bottomed boats, which hold one hundred passengers, travel up and down the coast. They visit the sea-lion rookeries and allow the voyagers to

photograph the animals. It may be chronicled that a new and valuable ally to science and education has been established in California in the boat with a glass bottom, through which naturalist or layman can observe animals in their habitat and note their habits unconstrained.

The real charm of this voyage beneath the sea lies in the wealth of submarine verdure, sea weeds; for here are the true forests of the sea, glades, and replicas of all the forest scenes of the land, awaiting the hand of some Breuer or Keith.

Here one is truly in the gardens of the sea, and on every hand are sea plants in many colors, shapes, and sizes. Here may be seen feather boa kelp (*Egregia lævigata*), giant kelp balls (*Nereocystis lutkeana*), iodine kelp (*Macrocystis pyrifera*), lace moss (*Dasya subsecunda*), fur moss (*Ectocarpus*), sea oak (*Cystoseira*), Irish moss (*Chondrus crispus*), coral moss (*Amphiroa*), chenille moss (*Codium tomentosum*), sea lettuce (*Ulva lactuca*), puff ball (*Colpomenia sinuosa*), sea grass (*Enteromorpha*), brown fan (*Zonaria tournefortii*), gulf weed (*Sargassum*), sea oak (*Halidrys osmundaceæ*), thorny kelp (*Gigartina*), cactus moss (*Halimeda tuna*), jelly weed (*Laurensia*), sea endive (*Haliseris*), (*Nitophyllum*), yellow rockweed (*Pelvetia fastigzata*), scarlet lace (*Plocamium coccineum*), brown leaf (*Phyllistis*), green rockweed (*Fucus harveyanus, Gelidium,* and *Polysiphonia*), eel grass (*Phyllospadea*), coral moss (*Corallina*), three species, worm grass (*Scytosiphon lomentarius, Ricardia, Gelidium, Polysiphonia baileyi, Dictyota dichotoma*), and about twenty more, identified by Miss Frances Lauderbach of Avalon, and Miss Florence Williams.

CHAPTER XXVIII

JUANA BETTER THAN NOTHING — THE LOST WOMAN OF SAN NICOLÁS

MY first visit to Santa Catalina was made, I think, in the hope of discovering a temple to the god Chinigchinich of the ancient Pimugnans, described by Torquemada, the padre of the Vizcaino expedition in 1602, but I hunted the deep cañons and the Vale of Avalon in vain. My first visit to San Nicolás was inspired by reading old Captain Nidever's account of the "lost woman" who, having been deserted, lived there alone for twenty years. She died back in the fifties; but Nidever's account of her hut and her life illumined the wind-swept island with a gleam of romance and pathos, to me at least, and I made three trips in all to it. But the winds, the human devastators — the curio-hunters, the otter-exterminators, and others, — and mostly the flying sand, had doubtless long ago wiped out the evidences of her occupation.

In the museum of the Vatican is exhibited, or was, a few years ago, a singular suit of pelican and gull skins about which a tale, true and affecting, has been woven. It was sent to Rome by one of the Mission Fathers on the Pacific Coast as being related to the attempts to Christianize the natives of that coast. According to Nidever, one of the old and respected sea captains of Santa Barbara, the Mexican Government

decided to remove the inhabitants of San Nicolás Island to the mainland, doubtless to better their condition, as they were being decimated by warlike tribes from the northwest, and to give them the consolation of religion.

The vessel sent out for them was a small schooner named the *Better Than Nothing*, under the command of Captain Sparks, an otter-hunter, who knew the Channel Islands well. The *Better Than Nothing* crew, and doubtless Mexican soldiers from the mission, rounded up the San Nicolános, and the vessel was about to sail, when a woman began to cry that she had left her child, a baby, ashore in the hurry. There were several versions of this. Some say that the skipper of the *Better Than Nothing* deliberately sailed off; others that it was blowing so hard that he was obliged to put out to sea. I can well understand this, as a worse place to land a boat, or to lie, does not exist than the spit at San Nicolás.

The poor woman protested that she must return, but her language possibly was not understood, and as the anchor was being lifted, and she realized that her infant was to be deserted, she drew back and they left without her. One story has it that she went aboard the vessel and later leaped overboard. Be this as it may, she was left — though she ran back, secured the child, and hurried down to the beach, crying, "*Manequauna*"; but they did not understand her, and sailed.

There is no doubt that Captain Sparks intended to return; but after the seven or eight San Nicolános had been landed at Santa Barbara, the schooner sailed for San Francisco and was lost. Time went by, months merged into years, and the lost woman of San Nicolás

became lost in reality. The story became a legend. The woman at first must have been nearly crazed at being deserted. After this came a revulsion of feeling, and she must have avoided the otter-hunters who went there, an easy matter to do on an island so large as San Nicolás. Some one must have seen the woman, or her house, as some time in 1850, or thereabouts, Padre Gonzales of the Mission of Santa Barbara requested Captain Nidever to go to the island and search for the woman.

Captain Nidever made three trips and searched the island from end to end, but failed to find the woman. On the third trip, still urged by the good padre, he took several Santa Barbareños, a number of Indians, and Mr. Charles Brown, or Carl Ditman, as he was also known. Some years ago Mr. D. W. Thompson, of Santa Barbara, wishing to obtain the exact facts in the case, visited Brown, then a very old man, with a stenographer and took down his statement.

Captain Nidever was positive that the woman was eluding them; so on the third trip he started at the southeast end, at the spit, and arranged his men in a line, several hundred feet apart, but all in speaking distance, and at the word of command they marched slowly forward scrutinizing every foot of the island, with the result that they suddenly came upon the hut of the woman. The statement of Brown is as follows:

"I went round the head of the island and found traces of the woman; went back and told the old gentleman that the woman was alive. He said it must be some of our Indians. I said, 'Our Indians have got bigger tracks that that.' He said, 'Well, if you think she is alive, let us hunt for her, and take all the men ashore.' We went up to the head of the island. There

was a kind of hill in the middle. I put my Indians a couple of hundred yards apart. I did not know what kind of woman she was, thought she might bite or scratch. We went from one side of the island to the other, and could not see the hill, and she was sitting on the side of the hill watching us. When we got across to the Indians, I said, 'There's nothing here, let's go back.' There was a basket and some feathers. She catched shags and had a coat made without sleeves, nicely covered with sealskin. I said to the Indians, 'You go to the hill and scatter the feathers and things in the basket, and if she is alive she will find them.' The same day we found them all gathered up and put in the basket."

On the following morning Brown persistently continued the hunt. Toiling up the hill, when he was about half-way up he caught sight of her. She was carrying something heavy, and rested at intervals as she ascended. Presently he came in sight of "three huts made out of whale bone." Perceiving that here was the woman of whom he was in search, he raised his gun with his hat on it as a signal to the Indians to join him hastily, as he did not know but she might "bite or scratch." He thus continues his narration:

"She had a brush fence, about two feet high, to break the wind, and right in front of me she sat facing me. The sun was coming in her face. She was skinning a seal before I came up to her. The dog, when he noticed me, began to growl. Thinking she might run I stepped round her, and she bowed as if she knew me before, and when the Indians came up they all kneeled."

The poor creature, when she saw beings of her own color and race, "held out some of her food" to them. She exhibited no fear, and at a sign went without

SAN NICOLÁS ISLAND

Home of the Lost Woman

ANACAPA ISLAND, THE EVER-CHANGING

LIBRARY
OF THE
UNIVERSITY

demur with her captors, if such they can be called, though she afterwards gave them to understand that she would not have joined them if they had not found her. Brown and his followers carried away with them all her primitive belongings. "I took everything she had," he says, "and she took a big sea-head in her basket, and that was all."

The Nidever-Brown party remained at the island a month, and while they could not understand the woman (nor could the Indians), they obtained a fair idea of her life alone for twenty years or more on wind-swept San Nicolás. She had abundant food to eat in the abalones, fish, and all the shell fish eaten by natives. She built herself a house or home by standing whales' ribs in the sand, covering the top with brush. She was skilful in weaving from grass fibre, and made baskets from it. Of course she had a selection from thousands of mortars and pestles made by her people for thousands of years, which were strewn over the sands — and in diminished numbers are occasionally to be seen to-day. There were dogs on the island, and she had their companionship. She killed seals at night by stealing up to them and striking them with stones. From them she made sinew fish-lines, and from abalone shells she manufactured hooks after the fashion of her people; first forming a round piece of shell, boring a hole in it and breaking a piece out, leaving a hook. Certain roots found on the island constituted a food. She was skilful in catching birds; and doubtess in the long time she became hardened to the life and suspicious of the otter-hunters; hence she hid from them when they landed.

As soon as she was captured, she adapted herself

to their way of living and played about like a child. Brown says she was very tender-hearted and built a screen for a young otter so that the sun would not injure its eyes. She was alarmed at the rough weather on the way across the channel and tried to tell the sailors to appeal to the wind gods to reduce the sea, or something of the kind. Captain Brown said she recognized all the islands and had names for them.

When they landed at Santa Barbara she displayed much fear at men on horseback, and when she saw cattle she fell upon her knees. They assumed that she had been born on San Nicolás, and had never been away from the island, or even heard of the Spaniards. All her relatives had been taken to San Pedro, where all had pined away and died years before; hence she could not speak to any one, and while the padres of the mission summoned Indians from all the adjacent missions none could be found who could understand anything she said, and the only native word uttered by her that is remembered was "*manequauna*"; what it meant no one could tell. An old woman who had been raised on one of the islands was at last found who could guess at th meaning of some of the strange words used by the woman; but nearly all her requests were made by signs. She was taken to the Mission of Santa Barbara and christened Juana Maria; to this the crew of the schooner added "Better Than Nothing," and by that name she was known.

Captain Nidever cared for her, and she appeared perfectly happy. She had a childlike nature, and spent much of her time going around in the evenings with Mexicans from house to house, dancing. So fond of this pastime was she that she danced, accord-

ing to Nidever, when any one went to see her. So much of a curiosity was the "Lost Woman" that Captain Nidever was offered a large sum to let her become part of a show. But the old Captain refused; he purposed that she should be happy the remainder of her life, and to his credit, be it said, she was. He fed and clothed her.

They estimated that she was about forty-five years of age when they found her. The new food she was obliged to eat at Santa Barbara did not agree with her, and in about six weeks she was taken sick, and died. Captain Nidever gave the padres her dresses of bird skins, her awls, wooden knife, lines, and grass bottles; the bird skin dresses were sent to the Pope with an account of her life.

The life of Alexander Selkirk was not so pathetic as that of this woman. Robinson Crusoe's island was rich in the bounties of nature, had trees and verdure; but twenty years on wind-swept San Nicolás takes one into the depths of tragedy.

On the east end of San Nicolás I found on my first visit a number of whale ribs thrust into the sand, which may have been left there by any of the collectors who visited the island since the time of Juana Maria. As I roamed along the shore, which was carved into extraordinary shapes by the wind, I could not divest my mind of the pathetic picture of this lone woman on San Nicolás; and as the wind howled and hissed through the rigging at night I could understand how the lone Basque herder believed that it was the protesting voices of the dead, of men murdered by warring men from the north, of women deserted and forlorn.

I believe that the power in man or woman to see the beautiful in all nature is one to be cultivated, as of profound importance; as, if one has this perceptive faculty keenly developed, it means happiness under all conditions, the ability to adapt oneself to the varying aspects of life. I have seen men who abhorred the very sight of the California Desert, whose beauties of color, tone, and tint deeply impress some men. One has but to read Van Dyke's "The Desert," to see a poet and artist's appreciation of the dreariest aspects of the world.

I fear that I have given an erroneous impression of San Nicolás, have not done it justice; for there are many attractions and natural beauties in this doomed and dying island, rent by the Furies, flagellated by the pebble-burdened wind. As I lay on deck one night, part of the anchor watch of my friend's yacht, where, owing to the menacing conditions, we all stood by — crew and guests — I could almost imagine I was listening to some vividly performed Wagnerian music. Over the highest mountains hovered a black genie, wings aspread, just as you have seen a hawk, conjuring the wind gods. The rivers of the sea were rushing by us, streaked with lambent flames. Every rope, halyard, and shroud hummed and moaned the melodies of despair, laughter, remorse, and death. The great seas that lashed the island on both sides met at our anchorage and fought their duels. The long, spectral, shroud-like spit reached out into the purple sea, like an insinuating hand of death; yet this was the home of Juana Maria Better Than Nothing for twenty years, and during all that time she fled from and avoided the sight of man. The very terrors, the tumultuous

furies of wave and wind and rock and hail, of inky fogs which beat about this island, the incontinent swirling spirits of the clouds — all are beautiful in the sense of Turner's Slave Ship and of the storm described by Ruskin.

It was low tide, and almost everywhere a black lava platform seemed to reach out into the wild sea, which came piling in with its wild white-maned horses riding on the crest, to be blown away or whisked off into the air. It seemed to me that I had never seen such high waves so near the dry land so beaten back. Brewster of San Buenaventura has made a photograph of this very spot.

Almost everywhere I found evidences of the people of the Lost Woman or perhaps of herself. I do not think I walked one hundred feet along that cave-infested and wind-gnawed shore without finding some object made by man. Here a toy of some kind, carved in stone; now again a few beads. Here some child had left a "pocket" of limpets, piled one within another, and mortars, pestles, stones, arrow-heads, flint chips, and out upon the sands of the west end tons of great red abalones — the assemblage of centuries — over two or three miles of sand-dunes in which were limpets, crabs, crayfish, shells, bones of animals, and shells of snails.

In some of the wrecked cañons the wind and sand had worked marvels, cutting out exquisite traceries, lattices, serrations, open work; while on the sides were wonderful heads of strange beasts carved by the wind. Rising out of one of these weird cañons where nature had played havoc, I came upon a plain as level for several miles as a floor. In places it was covered with small red stones, over which the Lost Woman must

have walked many times, facing the hard west wind. Then I turned into a deep sandy cañon, in which myriads of slate-colored miniature mountains rose, with here and there patches of sand grasses in gold, yellow, and red — vivid pictures against the white sand that scurried along before every vagrant breeze. Here I imagined the Lost Woman might have found some of her material for making baskets. As I lay in the lee in the sun, it was not an unlovely prospect, if one can see beauty in the purest sand, in gold and green and red grasses, and in skies of eternal blue, across which are racing the genii of the fog in streamers and banners.

I found a deep cañon filled with siliceous stumps, which looked like trees where the wind had blown the sand away and left the ghost of a forest with phantom stone trees. I found a battle-ground, for so it appeared, of scores of skeletons, where perhaps the San Nicolános had gone down before the Russians or Inunits.

There was a doleful lack of verdure here. The ice plant, a few cacti, low wind-beaten buckthorn, and grasses that jangled in the wind and wrote their story on the sands. I floundered over sand-dunes, dropped down into deep cañons, discovered a curious natural stairway, which might have been carved by an artist, but nowhere was there any evidence of the Lost Woman's life or home, if I except the whale ribs near the point.

All my visits to San Nicolás were made in August and September. In February or March, after torrential rains, the island in parts shows not a little verdure, enough to support a large flock of sheep. Mrs. Blanche Trask, who has seen all these islands through a poet's eye, has collected about one hundred species of plants

here, many of which were new. She found on San Nicolás, at its best in March, but one shrub over seven feet high, and leptosynes five or six feet. On the edge of some of the cliffs my feet sank into the red and glistening ice plant which threatened to send one flying down the slopes. From the summit of one I watched myriads of shags coming in from the sea, forming and reforming in a vast convention until the flock made a single black shadow of huge size on the clear water. I saw few birds beyond ravens, ospreys, eagles, shags, cormorants, snipes, and the brown pelican, all of which were extremely tame, showing the ease with which the Lost Woman obtained the skins she used as protection against the wild wind of San Nicolás.

No one can visit this interesting island, which was an empire in its way before the arrival of Cabrillo, without being impressed with the fact that here lived a real Robinson Crusoe whose life history is a part of the pathetic history of the world.

CHAPTER XXIX

ON THE TRAIL OF THE WHITE SEA BASS

DOWN in the Gulf of California, not far from the mouth of the Colorado River, the tide sets into the bays in a small bore, filling them very rapidly and running out a long distance. When the tide waves come in they are followed by a splendid game fish which the not over-observant angler might easily take for a salmon. It weighs from eight to one hundred and twenty-five or more pounds, and resembles a large salmon,—so much so that once when I stood above a great salmon pool on the St. Lawrence I could not divest myself of the idea that the splendid fishes darting about were the white sea bass of the Sea of Cortez, as the Gulf of California was originally named.

The weight of these fishes is here given at one hundred and twenty-five pounds, but an old fisherman and gaffer who accompanied the writer for many years stated that he had seen them so large that they averaged two hundred pounds, and Mr. C. G. Conn took monsters weighing one hundred and fifty pounds, with rod and reel. The fish abound in these waters in vast numbers. An acquaintance of mine, interested in mines in the vicinity of San Gorgas, took down some tackle, and, standing on the beach, cast into the tide waves as they came in, and had what he termed the sport of his life. He was an old salmon fisherman, and

he found that the fish were, at least in his opinion, far ahead of the salmon in point of gameness and strength; and none of those which he landed weighed less than eighty pounds. They took the mullet bait at once, and as soon as hooked dashed seaward in splendid play, taking yards of line from the protesting reel. The angler was obliged to run the fish down the beach, often at full speed, to save his tackle; then the splendid game would turn and come bounding up the little bay, now glistening in the sunlight, now half exposed, fighting hard, striving for liberty. For half an hour the struggle would continue, then the fish would come in slowly, protesting at every turn of the reel, to tip the scales at eighty pounds.

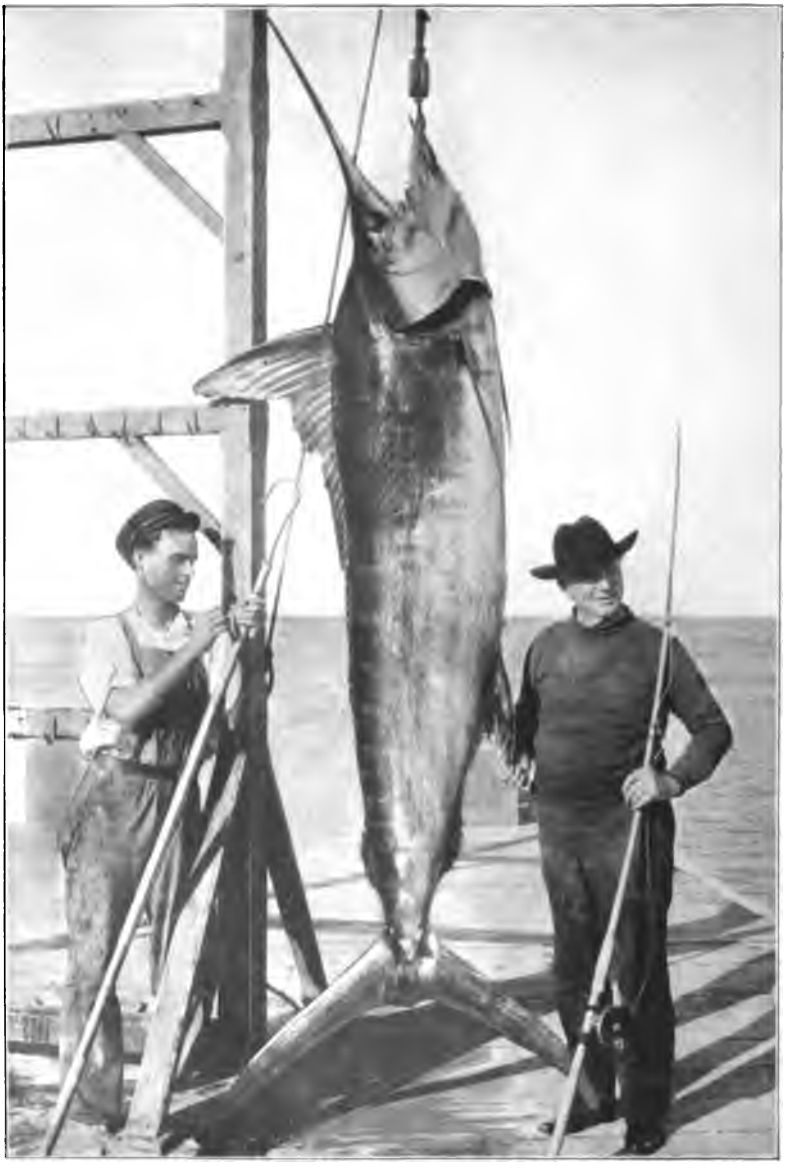
The bass is nearly five feet long, dark brown with iridescent tints above and silvery below; shaped very much like a salmon, so resembling it that the adventurers who have gone down to this part of the country have reported salmon-fishing, mistaking the white sea bass for it. This fish has been named for Marshal Macdonald, U. S. Fish Commissioner, and is known as Macdonald's white sea bass. In April, 1909, I fished for them and took small ones with a spoon off Ciari Island at Tobari Bay off the Yaqui Valley, Sonora, with Major F. R. Burnham.

Almost the same fish are found on the entire coast of South California, coming into the bays, at San Luis and Monterey, and are caught in numbers at all the islands from Santa Barbara south. At Santa Catalina, owing to the fact that here is a town, with daily boats, hotels, and all the conveniences for fishing, the sport may be enjoyed the most; but the fish is so peculiar in its coming and going that the angler who

reads these pages should prepare himself for possible disappointment if he makes the trip to these islands in search of white sea bass alone. It is true there are other game fishes to solace him, and it would be a better plan to approach the grounds in a general fishing trip and accept the white sea bass as a special dispensation. In a word, it is uncertain; yet some fortunate anglers enjoy the sport of sports every year. I have never known the fish to fail entirely. When they are not at Santa Catalina they may be at the Santa Barbara Channel, at Santa Cruz, Anacapa. I have found them in Monterey Bay. They arrive in schools, and rarely remain in one locality more than two or three days; so it is often a matter of luck to find them, and sometimes when found they will not bite — a most exasperating situation. One day is recalled at Santa Catalina when I was fishing for black sea bass — the leviathan of these waters. It happened that I was looking down into the blue water, and saw it fairly alive with white sea bass. They were all, apparently, over four feet in length, and none under forty or fifty pounds. The school was moving slowly north up the island following the undulations of the kelp. There must have been thousands of these fishes swimming very slowly in a dignified manner, dividing at the launch. I had a light rod baited with a four-inch smelt, and dropped the attractive lure in their midst, making it simulate life in the most approved fashion. Being very near, every movement of the fish could be seen, and not a fish moved toward the bait: they utterly ignored it. This was repeatedly tried without avail; then the bait was replaced by a sardine, then with three. But it was useless; the bass

WHITE SEA BASS

Taken by Mr. C. G. Conn, Gulf of California



RECORD ROD AND REEL SWORDFISH CATCH — 339 POUNDS

By Mr. C. G. Conn, Elkhart, Ind.

spurned the bait, and as they moved along in columns of scores, the disappointment was keen and irritating.

Suddenly it occurred to me, in one of those inspirations that sometimes come, to try flying-fish — seemingly impossible lure, one would think, a fish weighing one and a half pounds, and eighteen inches in length (*Cypselurus californicus*). Such a bait was all ready, the leader was quickly fastened to the line, and with a side swing the flying-fish was sent thirty feet away into the very midst of a platoon of giants, which were moving slowly along with their dorsal fins out of water. As the bait fell with a splash the unexpected happened; several bass started quickly, and out of the band, from some distance behind, rushed one which seized it and held on like a bulldog, very naturally supposing that good fortune had sent a living flying-fish his way. He stopped for a second or two, apparently expecting the fish to struggle, then turned it, all on the surface in plain view, pointed it, head down, as would a snake a frog, and with four or five convulsive choking gulps, with expanded mouth and gills, swallowed it. I then took part in the play, shortening the delicate line, and with a heavy sway gave the fish the butt. Fishermen whose ears are attuned only to the small trout reel, or the vibrant tongue of the black bass reel, have little conception of the sound that rose on the air as the big tuna reel spoke. I well recall being able to pick out my individual hounds as far as I could hear them when following coyote or lynx in California: Music's cry was low and mellow, Chiquita's long and penetrating, and so on. And so with these reels: they seem to have an individuality, and when the *zeee-zeeee* rose on the air,

one's pulse went with it, one's spirits bounded, and all one's senses ran riot in the delight of conquest.

The bass had taken one hundred feet, to the barcarole of the reel; it was one single blare of sound, the thumb pressing on the brake vainly trying to stop it. Fifty, one hundred, two hundred, the music still rising and falling, according to the heavy play upon the pad. Then it suddenly stopped and the bass was away, off somewhere, and down no one could tell how far, playing and hammering on the line with sturdy blows telling of a sulking, fighting mood. Then the big reel started it, and the line as it rushed around cut the water like a knife, making music of another kind. The reel ate up the line, inch by inch, foot by foot, the brave fish bearing away, keeping the line as taut as a guitar string; the rod bent to the danger-point. Suddenly it came dashing toward the boat, while the reel was whirled about, only to stop as the fish rushed away again, making everything sing, hum, and groan as the crash came. Twenty feet were lost in this rush, as nothing can stop fifty pounds of animation when well started; at least the delicate eighteen-strand line could not. Up and down the fish went; now in a splendid circle, now coming in to make lateral rushes, trying all the tricks it was capable of. The fight continued until the angler's arms were weary. Twenty minutes slipped away, then ten more, and the bass was still fifty feet distant, hammering at the line, which was as stiff as a harp string.

But the end was near; the constant rushing and the work of the reel wearied the game, which soon came slowly in, circling the boat, now on the surface, its dorsal fin cutting the water, always bearing off and

presenting a splendid spectacle of power and game qualities, and that disposition never to give in, which appeals so strongly to the angler. The gaffer began to finger his weapon, and, as the big fish swung into position, reeled to the limit of the long wire leader, it stole down and was jerked into the white throat, and the bass lifted, still fighting, still game, and held for a moment before being taken aboard.

Hold it up, gaffer, that we may gloat over its beauties, guess its weight, and commiserate it! And, giving it its quietus, the boatman displays the very king of the tribe, a fish four or more feet in length, long, slender, salmon-like, blazing with iridescence; the colors, especially about the head, being like those of a humming-bird, while a tint of old gold pervades its entire coat of scales. Out of a thousand, or perhaps two thousand, this was the only bass that could be tempted, for though the school was followed no other was hooked; yet they were so near that I could have speared them easily enough.

So much for this picture of the white sea bass. The following day, possibly, they would bite savagely and could be taken, one after another, without difficulty. Whimsical, erratic; both words describe them. The fish come to the islands in numbers from the south in April,—sometimes a little earlier, sometimes later,—and appear to be working up the coast to Santa Barbara, Santa Cruz, Santa Rosa, and Anacapa, being taken beyond San Francisco. I had my best luck in May; and to illustrate how these fishes bite when in the humor, a certain first of May may be referred to when in two days I luckily took five white sea bass, my companion taking five.

On this May Day the harbor of Avalon was filled with schools of sardines, and unexpectedly some one caught a white sea bass, the first of the season. The word was quickly passed, and I was soon on the ground with rod and reel. The big fish were lying under the sardines, the latter rising in every direction, showing that the large game was occasionally charging them from below. The rod used was of greenheart, two-jointed, about seven and a half feet long, about eight ounces in weight; the line was what is known as a No. 15, very small, not much larger than an eyeglass cord, yet capable of sustaining a dead weight of thirty pounds, but so light that a jerk of almost any kind would break it. The leader was about three feet of piano wire, in two links, connected by brass swivels; the hook a No. 7 O'Shaughnessy, to my mind the best all-round hook. These data are interesting to anglers, as the line is what some anglers use for four-pound bass on the St. Lawrence, in Canada, and was used to give the fish more than fair play. The hook was not baited, but lowered among the sardines, which were packed so thickly in their terror that a jerk impaled one, and a live bait was the result. The sardine rushed about wildly, sank beneath the school, the line tautened suddenly, *zip-zeeeeeeee!* the slight boat careening, the reel crying, the reel handle flying around so rapidly that it could not be seen, and a bass was hooked.

Avalon Bay is not more than an eighth of a mile across; the bass seemingly went nearly half that distance in the first rush, and it had not been brought to a stand, the boat just moving off gallantly, when my companion shouted, and his reel gave tongue. Being

but one hundred feet from shore, we had taken no boatman, and now we were in a dilemma. The first fish was towing the boat ahead at a good pace, while the second dashed astern, and a tug of war followed, which aroused no little enthusiasm among the observers on the wharf and in the boats. But it was a short run. The second fish in a violent flurry broke the line and left the field to the first victim. The boat was a light skiff, and the fish carried it along as if it were being rowed. By this time three other boats had hooked bass, and were rushing about in various directions, making a most animated scene. A lady nearly ran our boat down, being utterly unable to control her fish, the latter finally taking her entirely across the bay. It was landed half an hour later on a hand-line, and found to weigh eighty pounds. My fish was brought in in about twenty minutes, and in less than that time another was hooked.

And so the sport became fast and furious. Twenty or more boats were out, and nearly all hooked and landed from one to five white sea bass, among which there probably was not more than one which tipped the scales at less than fifty pounds, that being the minimum; and the largest was nearly eighty pounds. The excitement ran high, and boats were seen darting about in every direction, all flat-bottomed skiffs, readily towed by the splendid fishes, which succeeded in playing havoc with many lines and some rods. How many bass were landed this day is not known, but every fisherman had a string; and as the bass is a fine table fish the catch had a monetary value to the boatmen, to whom the anglers gave the fish. For four or five days this sport continued, then suddenly

ceased; the school had moved, and the anglers found it several days later at the Isthmus, fifteen miles up the coast, where rare sport was enjoyed from the fine sandy beach, the fish being played up and down in water as smooth as glass. Two days later the anglers of the Santa Barbara Channel Islands had them.

As with other fishes, the white sea bass, which is the *Cynoscion nobile* of science, varies much in individuals. Some of the large specimens are said to be poor game, others are extraordinary fighters. One is recalled, taken in a charming bay from which lofty cliffs and mountains reached away, that played, or rather fought, half an hour, then being taken by the remarkable agility of the boatman, who had all he could do to keep the angler facing the game, so fierce and rapid were its rushes in great circles about the boat. Perhaps the peculiar feature of this fishing is what might be termed the sociability of the fish which come alongside, and I have hooked a fish directly at the boat when reeling in to replenish the bait, the great fish suddenly dashing out of the depths to seize the remnant of a sardine and dart away, making the reel fairly scream.

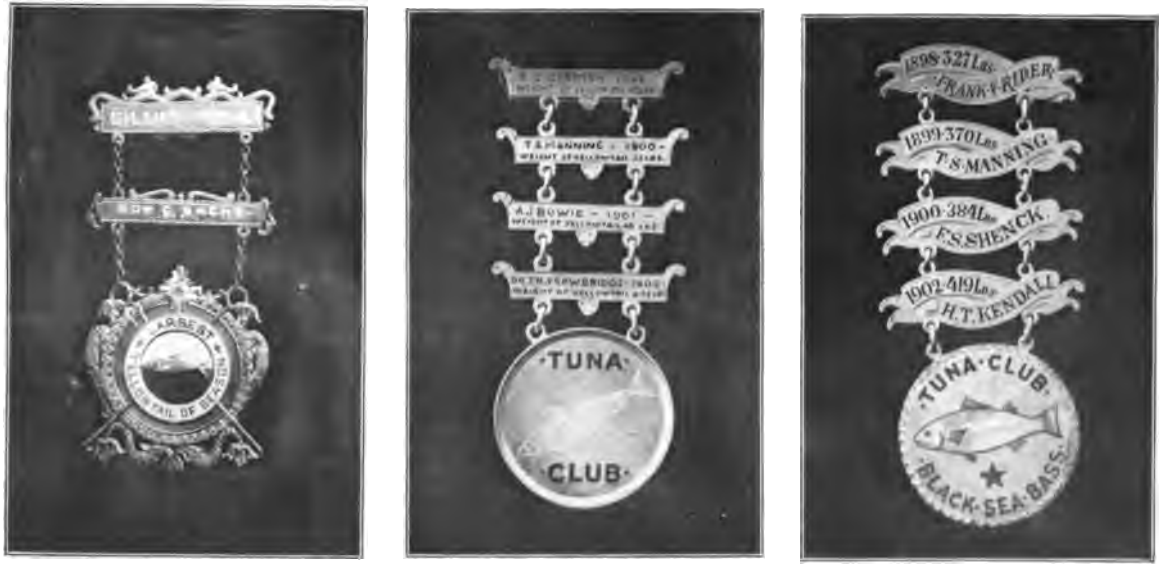
The bass follow the kelp which lines the shores of the Channel Islands, swimming into the undulations; thus they are caught within a few feet of the shore, the boat slowly moving, the angler either trolling or casting.

Little or nothing is known as to the habits of these fishes. They may spawn among the Channel Islands, but no small fishes are ever found here, though the large ones are filled with spawn. In 1908 a large school of medium-sized fishes, weighing from twelve

Photograph by Roy Shaver, Los Angeles

PLAYING AND GAFFING THE LEAPING TUNA

Catch of Mr. C. G. Conn, taken after a four-hour play



TUNA CLUB MEDALS

to thirty pounds, came in June and remained until September. They were reported from Santa Cruz later, but they afforded poor sport, though numbers were taken on spoons. A smaller species, known as sea trout, are occasionally taken inshore and in the Santa Barbara Channel, but rarely at the southern islands. As a rule the white sea bass is expected April 15 (though in 1910 it appeared in February, Mr. Whitman, of New York, taking a fifty-five-pounder in that month), and it should remain about all the islands until September in great schools. They are often seen lying in the kelp, where they present an alluring spectacle — pictures of dignity and repose.

In September at Santa Cruz and Capitola I have seen schools of them lying near and under the schools of anchovies, the fish averaging seventy or eighty pounds. The Italian fishermen were taking them at night in gill-nets, and I saw them come in literally by the ton.

The largest of these fishes are now taken on the three-six tackle previously described. The clubs recognize the white sea bass as a game fish of the first class, and many cups and trophies are offered for the largest fish of the season. Mr. C. H. Harding, of Philadelphia, holds the rod record with a fish weighing sixty pounds. He offers a white sea bass gold medal for the largest fish over sixty pounds. Mr. A. L. Beebe took the record fish of 1909 (forty-six and three-fourths pounds) and received the silver medal of the Light Tackle Club.

It is difficult to point out any special ground for them. Larco of Santa Barbara knows their habits in the Santa Barbara Islands. I have never seen them at San Clemente or San Nicolás, but they of course

visit all these islands in their great pilgrimages up and down the coast. They winter in the vicinity of Ensenada and Magdalena.

Their habits are similar to those of the yellowtail, though they remain more in schools. I have never known them to be caught in numbers on the southwest side of Santa Catalina, the best ground being from the east end to Avalon and from the Isthmus to Ship Rock, along the kelp. I cannot wish an angler along the Channel Islands, north or south, from Santa Barbara to Los Coronados, better luck than to hook, play, and land with three-six tackle a fifty-pound white sea bass. The following are some of the Tuna Club rod records of white sea bass:

LARGEST WHITE SEA BASS (*Cynoscion*)

	Pounds
Edward M. Boggs, Oakland, Cal., season 1899	58
Wm. P. Adams, Chicago, Ill., season 1903	52
C. H. Harding, Philadelphia, Pa., season 1904	60
E. C. Wilson, Denver, Col., season 1905	36
*A. L. Beebe, Portland, Ore., season 1906	34
*Arthur J. Eddy, Chicago, Ill., season 1906	34
*Mrs. E. H. Brewster, Avalon, Cal., season 1907	53
*S. A. Barron, El Paso, Tex., season 1908	40
*A. L. Beebe, Portland, Ore., season 1908	40
*A. L. Beebe, Portland, Ore., season 1909	46½

*Taken with nine-ounce rods and No. 9 lines.

CHAPTER XXX

THE AMBER FISH

THE reader of these lines who has fished the Florida Reef and the Indian River country will have tried conclusions at Palm Beach, perhaps, with a noble quarry — the amberjack, and it is fair to assume that if he has taken a fish of over fifty pounds it made an impression not to be effaced in all the years of sport that follow.

The amberjack rejoices in the name *Seriola lalandi*, a euphonious term showing it to be a cousin of a famous fish found about the blue waters of the Channel Islands, a cousin with a long, beautiful dorsal fin; hence it is known as *Seriola dorsalis*, and as it has radiant tints of gold-yellow and amber on its tail and a gorgeous side stripe of the same tint, it is called the amber fish or yellowtail.

The peacock is really the most beautiful of birds, as the abalone is the most gorgeous of shells, but they are so common that we think little of them. If pearls were as large as billiard balls and could be had by the ton we should not appreciate them. So the yellowtail, being the fish of the people, caught with ease, evidently eager to try conclusions with the merest tyro of an angler, does not receive the full share of appreciation it deserves as one of the world's great game fishes.

I shall never forget my first view of Avalon Bay

when I landed, in 1886. Men and boys were standing on the beach catching yellowtails with cod hand-lines. As fast as they could cast they had strikes. The fish ranged from twenty to thirty-five pounds in weight, and every few moments there would be wailing and gnashing of teeth as a yellowtail would break the ropes they were fishing with. I watched this scene until the fishermen became so involved in their lines that the sport waned and the splendid school of fish pulled out, some bearing from their jaws streaming white lines and hooks innumerable.

I returned to the mainland filled with the desire of purchasing Santa Catalina, which at that time was a sheep ranch owned by the Lick estate of San Francisco. I believe the capitalists of the then new country imagined that I was a mild lunatic from the wilds of New York City, when I propounded to them the proposition that any island so near a prospective great city like Los Angeles, where thirty-pound fishes like the yellowtail could be caught so readily, was better than a gold mine. Santa Catalina, a sheep ranch at that time, could perhaps have been bought for fifty thousand or one hundred and fifty thousand dollars, and there were fifty-five thousand acres. That was twenty-four years ago; and the yellowtails and their friends, with a *soupçon* of perfect climate thrown in, have in 1910 made this island the gold mine I prophesied; for I question if this one island could be bought at any price.

There was something more than guessing in this. I knew that fishing had a charm for nearly all the people. I knew how the bluefish drew hundreds in the East to the various fishing-grounds, and here was

a fish far ahead of the bluefish. I drew a mental picture of it being played with a rod and light line, and it was not long before I again arrived at Avalon with an old black-bass rod that had a record of four-and-one-half and five-and-one-half-pound black bass in the St. Lawrence River. I well remember when I displayed this rod to the only guide and boatman, Mexican Joe, who lived in a cañon about four miles up the coast. He glanced at it, then at me, and laughed heartily at my temerity as I explained to him that I was going to catch yellowtails with it. This was the first rod ever seen at Santa Catalina, and only recently Joe and I were fishing for yellowtails at Silver Cañon. I had landed three or four on my delicate three-six tackle when I hooked a big fellow and Joe's big genial laugh rang out again as I smashed the rod in mere carelessness. Long ago Joe turned on the hand-line, and is now a convert to the finest rods for all fishes. At that time Joe was the only boatman and guide; now there are dozens of boatmen, and Joe is the dean of the corps. What he does not know about the art of sea-angling in the Channel Islands is not worth knowing.

If the winter is very warm, yellowtails are caught every month in the year; but the fish is migratory, ranging from Lower California up the coast as far as Monterey, and found in the greatest numbers about the Channel Islands and particularly San Clemente and Santa Catalina. In the winter, when the rains are profuse, the yellowtails leave the islands and go out to sea to the offshore banks and far to the south. They return in March and April in great schools, then break up into small ones or in pairs, affording sport

of the finest kind to the thousands who visit these islands.

The yellowtail of thirty pounds is to my mind the equal of several bluefish; that is, could, if in a tug of war, pull them around and drown them. This is my impression after having taken scores of each kind with rod and reel. A twenty-five-pound yellowtail in its prime is the true king of fishes for fighting qualities, pugnacity, and the happy faculty of never discovering that it is defeated.

I was fishing one day in Catalina harbor with a friend. We had taken a flour barrel from the yacht in which to place our fish. My companion hooked a yellowtail, played it a long time, indeed until he was weary. The boatman gaffed it, and as he dropped it into the barrel the angler remarked that the fish did not know when it was whipped. It certainly did not, as at that moment it made a bound, cleared the barrel and landed in the water.

The yellowtail attains, on the authority of the author of "The Voyage of the Cachelot," a weight of one hundred pounds. I have seen one that weighed eighty pounds dressed; Mr. Conn took an eighty-pounder in Mexico; but the average fish at Santa Catalina runs from seventeen to twenty-five pounds, with many at thirty and a few at forty-five and fifty. At San Clemente they seem to run larger; in 1907–08 I found fishes there in large numbers up to forty pounds.

Mr. William W. Simpson holds the rod record of the Tuna Club with a fish weighing sixty-one and one-half pounds,—an exceptional catch which created a sensation. It now hangs on the wall of Mr. Simpson's

beautiful home in England. The next record fish, that of Mr. Alfred L. Beebe, hangs in the Tuna Club as a trophy of the club.

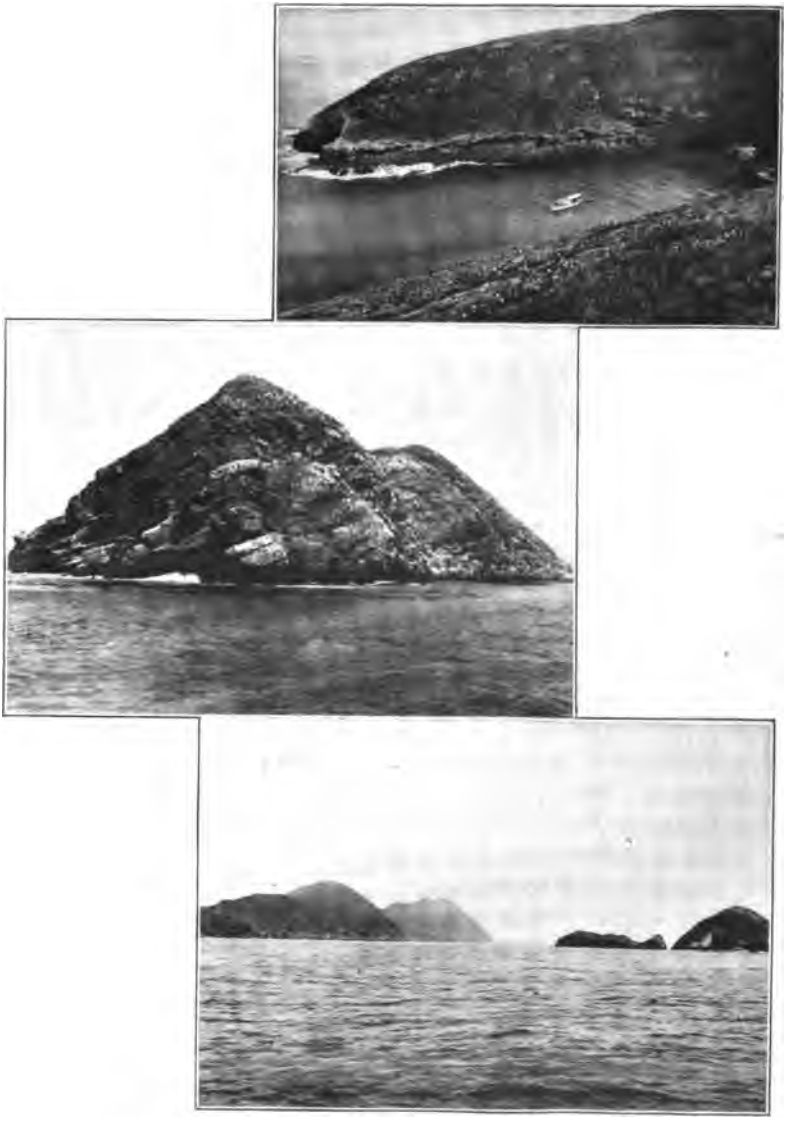
The fish is one of the most beautiful that swims. As you see it beneath a floating island of kelp or swimming along the cliffs of the islands, the back appears an olive-green, the fins and tail yellow or amber, the belly a vivid silver; altogether a resplendent creature, with a large, expressive, liquid, blue eye. The head is large and the general shape of the fish is something like that of a salmon; so much so that an old name for the fish is the white salmon, or amber fish; but yellowtail is its proper name. I have seen the seas tinted with them when not a fish would bite; again I have seen a school rush into Avalon Bay, drive the sardines out onto the sands, charging them like grenadiers, rushing here and there, biting at everything from a rag to a bone, carrying devastation everywhere among the small fry and the anglers' lines.

There are almost always a few yellowtails about Avalon Bay in winter, but they are educated fishes, and you may find these intellectual giants in any school. They will seize every sardine you throw over, but always refuse the bait that hides a hook. For weeks a yellowtail lived near the Avalon dock in 1901. I hooked him several times. I saw him hooked twice in an hour. As soon as he felt the hook he swam out one hundred feet or so, turned and came at the dock with a rush, wound the line about it, broke it, and in ten minutes was back at his old place with lines dangling from his jaw.

The yellowtail is the fish of the people. Boys, children, women, all fish for it, and few anglers can

resist its game plays. In fact the Bay of Avalon will often be crowded in some place with rowboats, each containing two or three men, women, or children, all provided with light rods of various kinds, and all fishing for yellowtail. I have seen forty or nearly twice as many anchored here together, and over two hundred anglers. Every time a fish was hooked the entire yellowtail village would raise a shout that echoed far back and up the canofis of the Isle of Summer, and they would continue to shout until the fish was landed, cheering the angler, urging him on to victory as the game fish towed him about.

The yellowtail is generally fished for by trolling slowly from a launch. The tackle is a nine-ounce rod, nine-thread line, or a six-ounce rod and a six or number three line. The leader is of wire, eight or ten inches longer; the hook is a number seven, to which is affixed a sardine six or seven inches long. This is hooked on so that it will run well, the mouth of the sardine being bound with wire. If your boatman understands his business he will have several of these all ready, unhooking the leader from the line and hooking on another without waiting to bait the hook. If you desire to fish for very large yellowtails your boatman uses flying-fish eighteen inches long — an extraordinary bait for this fish, but a part of its natural food. Your launch, for which you pay (for two) six dollars for half a day or ten per day, is stout, well built, eighteen or twenty feet long, more or less. She is a sea boat, though no seas are generally met with, as the fishing is alongshore. She has a powerful ten or more horse-power gasoline engine, a hood to raise over the bow, and should have sails, awnings, oars, etc. The wheel is



THE CORONADO ISLANDS

Off San Diego and Coronado Beach

THE FACE OF CORONADO

Coronado Islands

amidships, on the side; and here the boatman, who is engineer, helmsman, and gaffer, sits; his right hand on the wheel, his left on the clutch of the engine. Across the stern is a broad seat with two comfortable chairs in which the anglers sit facing the stern; one fishing to the right, the other to the left.

The fishing-ground at Santa Catalina is at Seal Rocks, three miles down, to the east end, alongshore to Church Rock, or off Silver Cañon; but always near inshore, and generally in deep, smooth water, like that of a lake. If it is a little rough at Church Rock, you run back to Seal Rocks where the sea is like glass. The best fishing at the northwest end is at the Isthmus, at Ship Rock, where usually large yellowtails may be had. It is not necessary to tell the angler this, as he is a philosopher and understands the situation; but it is necessary to tell the non-angler, the reader who is about to become one, that the yellowtail, which can be caught by the boat-load, apparently, to-day, will possibly not bite the next day at the same place, or he may bite still fiercer.

In a word, even here in the Channel Islands, which have without question the finest sea-angling in the world, there is an element of uncertainty. Were it not for this no one would fish; for nothing so palls on one as to become satiated with fishing. If you can go out at any time, as I often have done, and catch big yellowtails as fast as you can reel them in, the pleasure is soon gone. Some seasons here the fishing is good at one island, poor at another; now it will be beyond the dreams of the most ambitious angler, the next day the reverse. But the average here is beyond

anything one can find anywhere else, and the moral is that the angler must take luck as he finds it. In 1908 big twenty-five, thirty-five, and forty-pound yellowtails bit so fiercely at San Clemente at the east end and all along the coast, that I was very weary after a day's fishing, though I rarely took more than five or six, more often three or four. We fished with the lightest tackle, and the combats — that is the only word to use — were often over an hour or an hour and a half in duration.

This brings us to a definition of a morning's fishing. Doubtless the reader will not agree with me, but I believe that three yellowtails taken with a three-six rod and line, each of which plays from half an hour to an hour, is enough to constitute a good morning's sport; the fish to weigh from seventeen to twenty-five pounds. Of course one often takes many more than this. I should also mention that the fish not needed by the boatmen are released so they will be on hand again in a day or so, reminding one of the old English sportsman who had fine shooting all summer at one snipe which he never could hit. I think the angler will agree with me that the angling at the islands is not all in the fish caught. It is a delightful diversion to sail up and down the coast twenty miles out to sea, in perfectly smooth water; there is so much to see, the air is so pure and delicious, the radiant animals of the ocean so strange, the ocean so blue.

I have suggested the tackle, and as we move out of the bay with Tad Gray, Mexican Joe, Chris Ringsen, or some one of the many excellent boatmen at the wheel, you reel off sixty or one hundred feet of line,

hold the rod across your knee, your thumb resting on the leather pad or thumb stall which forms the brake, and revel in the scenery — the beauties of the bay, the mountains that climb into the air, the deep shadows of the cliffs. All at once the click gives out a brazen note, a sort of *z-e-e-e-e-e-e!* You close your thumb on the brake, are alert on the moment, and see the really splendid rush this yellowtail makes. You may have caught salmon, but this fish can drown a salmon of twice its weight. You may have taken bluefish, or drum, or weakfish, but you never experienced before just this kind of thrill that the typical twenty-five-pound yellowtail in good fighting trim gives you as he garners one hundred and fifty feet of line. After a while you stop him. The boatman has thrown off the engine, and you are now introduced to a real game fish. I am not going to anticipate your pleasure by describing all the sensations of the sport, or the methods of the yellowtail, but he will give you the play of your life, and every once in a while comes the vicious *z-e-e-e-e!* as he makes a rush which nothing can withstand. Then, when you bring him up and he circles around the boat, never giving up, bearing off, if you really need him, the gaffer slips the gaff under him and lifts him, still fighting, into the boat. You then see that his back, which was green in the water, is now a splendid sapphire blue.

Yellowtail fishing when the fish are large and biting is, to use the term that has been frayed to a frazzle, "strenuous sport"; there is no other word that just describes it. The fish bites so readily that it is manifestly unfair to use anything but the fine tackle

all the boatmen are supplied with — preferably a nine or six ounce rod and a nine or six thread line. Mr. Crandall, of the Ashaway, R. I., line manufactory, has introduced a number three line, which he has called the three-six club-line, that is, while a mere thread, strong enough and big enough to take the average yellowtail.

I do not forget that the reader can and will fish with just the tackle he pleases, but the waste of fish at all these islands has been the source of regret to all anglers in Southern California, and the suggestion of light tackle is to aid in preventing this. Some of the methods at Avalon may be of interest. There is an absolute scale of prices for launches; rowboats are of course much less, and the angler can row out into the bay, or down the coast, or he can fish from the dock; but the launch is the best plan. The professional fisherman, Vincente Moriche, supplies all the boatmen with sardine bait, and they in return give all the catch to Vincente; that is, all the angler does not need for his personal use. This is a mutual accommodation. Flying-fish must be bought, the rate depending on the supply, which varies; for the fishing here fluctuates just as the trout are changeable in their moods. If the angler breaks the fine rods of the boatmen he is supposed to replace them, and the angler will find the regular men of Avalon honorable in charging for all these items. Photographers are at hand to "take" notable catches, and the island taxidermist mounts the large fishes in an attractive manner. The rates for launches are: Six dollars for two anglers half a day, or ten dollars for all day (from six or seven or eight in the morning until five in the afternoon).

The habits of the yellowtail are more or less mysterious. They undoubtedly spawn here, but in many years' fishing I have never seen a yellowtail under three or four pounds, though smaller fish have been seen; but I doubt if the very young a few inches long are ever seen. Whether they take to the deep water or not is unknown. All the Channel Islands abound in yellowtails, but they decrease in number as you go north. In the winter, or from December to March or April, they are found down the coast of Lower California in vast numbers. Mr. C. G. Conn has cruised for two years in the Gulf of California in his yacht, *Comfort*, and caught very large yellowtail — one an eighty-pounder, — finding among these islands a virgin field for the angler.

It is not all trolling when fishing for yellowtail; at times they bite better in "still-fishing." Then the angler can cast and play the fish standing, with the butt of his light rod in his belt socket. Again, they are found four or five miles out to sea, beneath great patches of floating kelp, and can be picked off, one by one.

There is but one drawback in yellowtail fishing. They are almost always played in blue water, and the average fish will plunge down and sulk like a salmon. If he could always be played in shallow water it would be the sport of kings; and just this sport I have had between Mosquito Harbor and the east end of San Clemente, where the splendid game circled on the surface like a bonito and I raced after it at full speed. This sport can be had at Catalina Harbor, where the water is shallow; at least I have had it there, not to speak of sport with the leaping sharks in near shore.

The record rod and reel yellowtail catches of the Tuna Club since 1898 are as follows:

	Pounds
F. V. Rider, Avalon, Cal., season 1898	41
F. S. Gerrish, Jacksonville, Fla., season 1899	37
R. F. Stocking, Los Angeles, Cal., season 1900	48
T. S. Manning, Avalon, Cal., season 1901	33
Dr. Trowbridge, Fresno, Cal., season 1902	47½
F. P. Newport, Los Angeles, Cal., season 1903	46
H. Meyst, Chicago, Ill., season 1904	44
J. E. Pflueger, Akron, Ohio, season 1905	43
*A. A. Carraher, Avalon, Cal., season 1906	38½
*Edward C. Sacks, Butte, Mont., season 1907	41½
*W. W. Simpson, England, season 1908	60½
*C. E. Ellis, Spokane, Wash., season 1909	48½

The Tuna and Light Tackle Clubs, as well as the Three-Six Club, the last two branches of the Tuna Club, offer beautiful cups, medals, and prizes for record yellowtails; these are referred to in the chapter on the Tuna Club.

*Taken with nine-ounce rods and nine-thread lines.

CHAPTER XXXI

TAMENESS OF ANIMALS AMONG THE CHANNEL ISLANDS

THE feature which will really amaze the wanderer among the Channel Islands is the tameness of some animals. To meet a bull sea-lion weighing approximately half a ton, on the main avenue of a town, fifty feet from the water, is a possibility of a startling nature, yet I have seen Old Ben, the head of the Santa Catalina sea-lion rookery, on Crescent Avenue, Avalon, surrounded by tourists who snapped their cameras at him with impunity. At that time Ben could be induced to come ashore when the lure was a fat, long-finned tuna; but one day he climbed upon the wharf, coming entirely up the steps, following the man with a fish. Then some unreasonable person made a threatening demonstration; Ben started for the steps, lost his hold, slipped, and fell, smashing them and wounding himself. For a long time he remembered this, but gradually his faith in human beings has returned and the men can call him up on the boat-landing of the float or out upon the beach, by showing a succulent fish.

When very hungry he has permitted himself to be touched or patted by one of the fishermen. He is good-tempered and never attempts to bite. But he is a savage-looking animal, and when he comes leaping up on the boat landing, driving off women and children by mere ferocity of appearance, and seizing their

fish, as he did recently, he makes a very clever imitation of a savage and ferocious beast.

A few years ago many of the sea-lions were killed by vandals; but laws were passed, and for a number of years the sea-lions have been protected. The rookery has increased in size until a split has recently occurred, and another settlement has been established half-way up the island at White Rock. It has been the custom of fishermen for years in cleaning their fish to toss the refuse into the bay, and the sea-lions formed the habit of coming down to the bay at this time to dine thereupon. At first only one or two came; now a band of two large bulls and several females make their headquarters at the bay, or spend most of the time there, constituting a valuable sanitary corps, as they eat every fragment of fish, the gulls joining in the feast. When not feeding, the sea-lions pass the time within a few feet of the beach, sleeping or playing, the females and young leaping from the water and going through various tricks of interest to the amazed looker-on.

But a few feet away from the sea-lions are the boat-stands of the fishermen and boatmen, and boats are moving out and over the sea-lions constantly; yet they are apparently oblivious of the men, who never molest them. This has had a peculiar result. The enormous animals have become so tame that they almost allow the men to touch them, and readily come out upon the shore to feed from their hands. It so happened that I was upon the sands one day when no sea-lions were in sight; and upon my asking a boatman where they were, he began to whistle as if calling for a dog,

and to call, "Here, Ben!" repeating the call several times; whereupon out from among the anchored boats appeared not only Ben, but two large bull sea-lions, which must have weighed half a ton each, followed by two or three smaller females. The boatman tossed some pieces of albacore into the water, which the sea-lions dashed for, and down upon their heads plunged several score of gulls, paying not the slightest attention to the huge animals cavorting about. The sea-lions seized the dead fish under water, brought it to the surface, and with a violent swing back and forth tore the fish in pieces, the birds taking the rejectamenta, while several large pelicans floated in the immediate vicinity ready to pounce upon any fragment that came their way. Not ten feet from this interesting scene floated several boats containing spectators, yet the wild animals paid no attention to them, affording a remarkable illustration of the tameness of animals when protected.

When this fish was disposed of, the boatman took a large albacore by the tail and walked down the beach, calling the sea-lion, Ben, by name. The animal responded at once, coming inshore with a rush, followed by two others. The boatman gradually retreated up the beach, the huge animals following him, in their clumsy waddle, resembling gigantic slugs more than anything else; finally they took the fish from the man's hands. The scene was remarkable, the confidence manifested in the man complete. This is a dramatic situation that occurs often at Avalon Bay on the main beach of the little town, affording a free show to visitors and sojourners on the

island. The rookery where the animals make their headquarters is about two miles distant. The sea-lions are so tame there that they can be approached with ease, and are the constant objects of amateur photographers, who visit the locality in yachts and boats of various kinds.

The wild quail or partridge of Southern California will enter gardens, and nest there; and in the protected season I have seen a flock standing in an island road, a jaunty male between them and my horse not twenty feet away—moving only when I moved, and then with reluctance. Several years ago some residents on one of the Channel Islands of Southern California introduced a number of black-tailed deer, which were protected to such extent that in time they discovered that they were privileged characters, and assumed nearly the absolute contempt for human beings held by the sacred bulls of India, that crowd men and women from the road.

They persisted in entering gardens day and night, destroying the plants, and finally, to locate them, the dwellers on the island had bells fastened to them. One buck made his home near the town of Cabrillo, and walked about the place and over the hills with the freedom of a dog. When a boat landed off the pier the buck ran down to greet the newcomers and share their lunch, and became a welcome guest at barbecues and lobster and clam bakes. As time went on this deer through attention became extremely arrogant, and began to resent any lack of attention; in a word, like many persons, he could not stand prosperity. One day when an old lady refused to allow him to eat her lunch, the buck drew off and bowled the lady over.

This seemed to open up a new field of pleasure to the deer (and women particularly appeared to be the object of his enmity), which at last became so pronounced that the animal had to be placed in confinement.

Nearly all animal life is protected on this island. I have counted nearly half a hundred bald eagles in an eleven-mile run, and have seen them take a fish from the water within easy gunshot. They build their nests on pinnacles that are not difficult of approach. The sea birds are equally tame. Gulls gather in flocks a few feet from those who feed them; in the winter flocks of cormorants and loons swim into the bays, and are so tame that they merely divide when a boat passes, and fishermen often find that the cormorants take off bait almost as fast as they can put it on. Gulls dash at bait; I have seen a long-winged, petrel-like bird follow my line under water at a cast, using its wings to fly along, and take the bait; and at times scores of sea birds are seen inshore feeding upon small shrimps, paying no atention to observers photographing them.

I have had eagles try to seize my bait — a flying-fish — fifty or one hundred feet astern. Seals and sea-lions will do the same, also gulls. The latter in Avalon Bay are almost as completely domesticated as fowls. In winter flocks of loons and other sea birds enter the bay, and I have seen them at San Nicolás and Santa Cruz, so tame that they merely swam to the right and left as our boat moved along.

The angler in these waters will invariably be impressed by the tameness of fishes. Yellowtail, sea bass, and others will be hooked at the boat at times,

and I have seen columns of white sea bass, averaging fifty pounds, swim so near that I have touched them with an oar. I have seen, from a glass-bottomed boat, a diver in armor who went down in Avalon Bay, sitting on the bottom, feeding fish with broken echini which he held in his hands.

The whales one sees when crossing the channel are indifferent to vessels, and will sometimes swim alongside. The orcas, fifteen or twenty feet long, seem indifferent to human beings, and swim along within twenty or thirty feet of the boat or pass under it. The great sunfish has permitted me to rush alongside and grasp it by its fin. But if the angler desires to see really tame fishes he should go out a mile or so from Avalon some warm still day and have his boatman "chum" up long-finned tunas or albacores and bonitos. When hungry they will almost take food from one's hand. I have caught them by placing a sardine on the point of the gaff, and as the tuna, a forty-pounder, snatched the lure, not two feet from my hand, I would jerk the hook into it and land the fish. This seems almost impossible; but I think, could I have reached down farther under water, I could have fed these radiantly colored fishes out of my hand, as many persons have fed wild birds.

CHAPTER XXXII

THE PEARLS OF THE ISLANDS

DURING the last Summer I was drifting down the coast of Santa Catalina Island, trolling for yellowtail, when I noticed something that looked like a seal come up inshore and go down in the same spot. The movement of the animal was so peculiar that I told my boatman to run the launch inshore; and then I discovered that my seal was a Japanese, and soon from behind a rock appeared a boat.

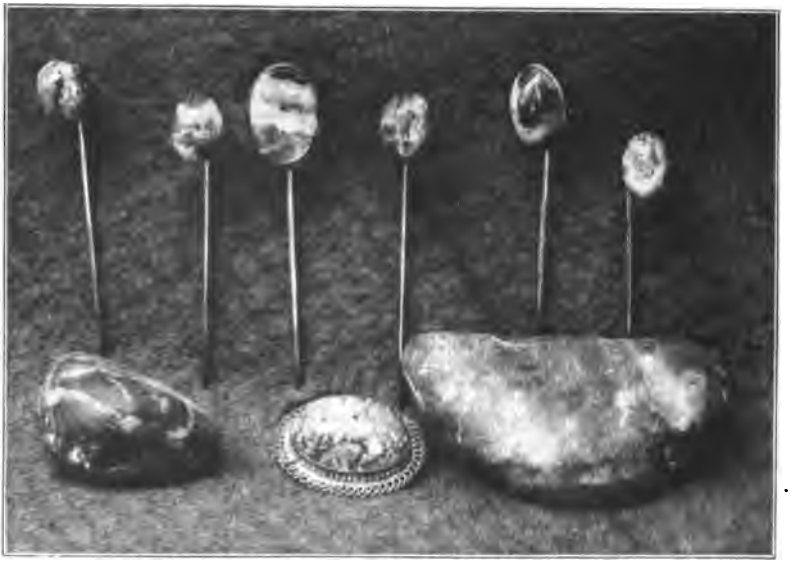
I found there were four or five Japanese. Their boat was a "double-ender," like the ordinary boat of the Italians of San Francisco, but in the stern of this, on deck, was a brick fireplace where the men cooked.

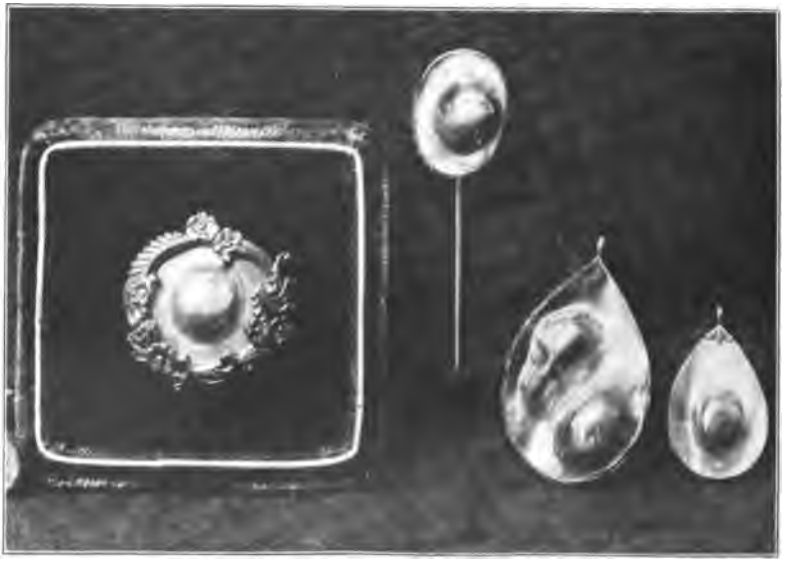
They were black pearl and abalone shell hunters, one crew out of numbers which have so thoroughly plucked the entire Pacific coast that there is little left for the American whenever he opens his eyes to the value of the fast disappearing mollusk. The shell is the abalone, the ear-shell, or the *Haliotis* of science. It is as large as the open hand, and when ground on the outside is a thing of beauty, the most beautiful of all mother-of-pearl. Tons of these shells are sold to go to Germany, where in the child-labor homes and factories of Vienna they are made into a thousand peculiar things, and sent back to Catalina and other tourist resorts for sale — a curious commentary on

what cheap labor can do. Perhaps the largest number of abalone shells are polished and sold as shells.

Two or three species are known about the islands. As a rule they are found clinging to the rocks in water from eight to twenty feet deep. It is not easy to get them, which possibly explains why the Americans allow the Japanese to monopolize the trade. There are laws limiting the catch to a certain size, but the collectors often disregard it. The abalone has other values; the meat is dried and exported, and in some of the shells black and white pearls are found, and often black blister pearls of value. Thirty years ago, so the story goes, a black pearl was found in an abalone in these waters that brought three thousand dollars in London, and many of smaller value have been found.

As we drew near the Japanese they were seen to have on big goggles. They were perfectly at home in the water and appeared like seals. Each man had a short chisel and a box with a glass bottom. The method of procedure was as follows: They anchored the big boat and swam out to where the waves were not heavy, in water fifteen feet or so deep. They then tipped the box and looked down into it until they located a shell, then disappeared, leaving the box to float on the surface. Their method of going down was so much like that of a seal — throwing the legs up above their dark short bodies, that the resemblance was exact at a distance. The time they remained down, a minute if necessary, seemed interminable; but up they would come, each man having an abalone in his grasp. This was dropped in the glass box, and after locating another shell, down the human seal would go to pry it off.





GEMS AND PEARLS OF THE CHANNEL ISLANDS

THE TWIN ARCHES, SANTA CRUZ ISLAND.

Drifting near them, we saw the *modus operandi* plainly. The man by much practice could locate the shell, and swimming down he held onto the rock with one hand, while with the other he pried off the big shell, perhaps two, as they are often found one upon the other. Successful, he swam to the surface; in short, he was for all practical purposes as much at home in the water as a seal. When the little box was filled the collectors swam over to the boat and emptied it, crawled aboard and hovered about the fire with pieces of sail-cloth or coats over their shoulders until they got warm, when they again dropped overboard to continue the work. On the forward deck was a pile of shells which must have weighed half a ton; and in another heap were the meats. The shells were to be scraped, dried, and polished; the meat dried and smoked, and sold to the canners and to the markets, as it makes a delicious chowder. The bulk is dried for export to China and India. The men evidently did not wish to be watched, and only when we pretended to fish did they go overboard again, diving like otters and coming up with three or four shells. Few if any shells were missed, as by a systematic arrangement the divers moved down the coast in lines, covering every rock or stone. While the law regulates the size to be taken there was no one in sight to measure them; so it is fair to suppose that every shell possible was taken.

At the town of Cabrillo, Santa Catalina, where there is a good brisk wind on some summer days, the scene changes. On the beach is a thickset, jolly-looking old fellow who is in the business. He buys the big shells of the Japanese or any one if he cannot get them him-

self, as he cannot match cleverness with the Japanese. He is too fat to dive, too clumsy to swim, and he would freeze if in the water five or six hours; again, he is afraid of the sharks that never come. So he goes out with a chisel on the end of a long pole, and looks down into the water from a comfortable boat through a water glass, the kind the Japanese carry. He sees a shell, pries it off, then stabs it with a barbed hook, and lifts it up. This is the American plan, — slow, ten times as slow as the system of the Japanese, who, until the American discovered it, went down in a regular armor and walked into the zone of the abalone; then he took them by the armful, literally looting the entire Pacific coast. What they are taking now is the remnant after years of looting.

Twenty years ago I landed at San Clemente Island and found that a clever old Chinese genius was carrying on a twofold business, making it pay both going and coming. The old Chinaman was a smuggler, but on the surface he was an abalone fisherman. He made his headquarters on San Clemente Island, a place rarely visited in winter. Some one who owned a little schooner brought Chinamen up the coast from Mexico and landed them at San Clemente — an easy thing to do when the Government had only one revenue cutter on the coast, and that up north all the time. As soon as the men were landed they began to collect abalones, and the day I stumbled on their camp they had hundreds piled up in heaps — shells and meat. Upon seeing me a number of men ran for a big tent. I ran after them, and when I reached the tent I threw open the fly. They were a demoralized lot of smug-

glers. I laughed, and that raised their spirits; they had taken me for a revenue officer.

The abalone shells were shipped to Germany, the meat went to China. Every week, I fancy, a few Chinamen were sent over to the mainland in an old junk that was always drifting up and down the channel. At night she would drift inshore; a boat would be sent into some convenient spot, the Chinese would land, and by the next day they would have walked the twenty miles to Los Angeles and were lost in the local Chinatown. The old junk would run into San Pedro in the morning, and her Chinese crew, *with certificates*, would land the crop of abalones, after which they would set sail again for San Clemente.

The old man on the beach buys abalones from the Japanese. He has an extraordinary machine or instrument for polishing the shells. He sits near the grindstone, at the other end of which is a windmill wheel. The wind turns the wheel and polishes his abalone with little discomfort to him — no leg work at least. When he picks up a shell as large as one's hand, or larger (it may be a black, red, pink, or yellow abalone; there are several kinds), you see that the inside is beautiful; but the outside is ugly, with shells, seaweed, boring-worms, serpulæ, and other sea animals which make their home on rocks and shells. This he presses against the wheel, and presto! the dirt is ground off and the surface becomes the same rich mother-of-pearl found in the interior of the shell; but it is only when the final polishing is given it that the beauty of the abalone is seen, — there is really nothing more gorgeous and beautiful than this shell.

Many shells are polished in Los Angeles and at Ava-

lon, where there is a skilful polisher who can leave a black or white cross on the shell in a marvellous manner; or he may cut it or polish it so that the letters of your name or some insignia appear.

There are two kinds of pearls found in the abalone shells. One is round or uneven, resembling the ordinary pearl of commerce. These are found lying between the animal and the shell, or often in the folds of the animal, but attached to it. These are most often black, and some really beautiful abalone pearls have been found. The light ones come in various shapes, and are sold to the jeweller, who mounts them as pins, and uses them as ornaments.

Another product of the abalone, greatly in vogue, is the abalone blister, a large central pearl that grades off into the shell and looks before it is taken off like a mere protuberance; hence the trade name, "blister." These attain a diameter of an inch or more, and are often beautiful, radiating innumerable colors and tints in the sunlight, while the white ones have a peculiar chatoyancy which adds to their value.

That the abalone industry of the Pacific Coast has been attended to by both the Japanese and the Chinese is well known; and that it will be entirely wiped out before many years, as far as its commercial value is concerned, is a foregone conclusion.

CHAPTER XXXIII

TRADES OF THE ISLANDS

AS might be expected, there are many curious trades at the Channel Islands, trades found nowhere else. A small army of boys make a good living by diving for nickels when the steamers come into Avalon Bay, and they have become very expert. They also follow the glass-bottomed boats and dive for shells. Fifty or more boatmen or gaffers own a fleet of boats here which in perfect equipment of expensive rods and tackle are unique. Then come the men of the glass-bottomed boats following their strange vocation. To be captain of a glass-bottomed boat, like "Marine Jimmy" or Joe Adargo, is to have a lucrative business. Here are several men who put in their time in winter in collecting antiquities, opening graves, and selling their finds to the big museums. The abalone-hunter is armed with a long pole with a chisel at the end, and there are boats with Japanese crews which dive for the beautiful shells and pry them off, as we have seen. The extraordinary business in curios is shown by two large shops at Avalon ablaze with radiant abalone shells, fishes, and all the wonders of the sea. Here is a man who keeps a living fish exhibition; another who goes down in armor in the bay. At Cabrillo, a town on the west end, several men hunt abalone pearls; and one polishes abalones to order. At Avalon there is a shop where moonstones

are polished while you wait. You go to Moonstone Beach in the big glass-bottomed steamers of the Meteor Boat Company and find your moonstones, and for a small sum receive the polished semi-gem before you leave.

A typical Yankee skipper and a fine old man is a "sand-dabber," who hauls up the succulent flounders from deep water with a winch; another is a grouper fisherman for the market; and on the beach early in the morning you may see Vincente Moriche, who is a bait-catcher, or employs a number of men with seines to accomplish this important work. They also set nets for flying-fishes and others at night. Early in the morning you may see shell-hunters on the beach. They make long strings of shells, and many strings make a portière worth twenty or even fifty dollars. Sometimes they find a nautilus, and this means from ten to twenty dollars. Then there is the seaweed-hunter, who sells to collectors; the artist who paints jelly-fishes. Another set of men are crayfish-catchers using pots or traps which they set at the various islands, sending the catch to Los Angeles. A big, low power boat which runs into all the nooks and corners is a "sardiner." She nets twenty tons at a time with a big purse-net. These go to the cannery at Los Angeles, across the channel, and are said to be the equal of the Italian and French product. The little settlement of Chinamen of Catalina Harbor catch oil sharks for the livers, which they try out; the fins they send to China. This man who is always poring over the rejectamenta of the fishes has a hobby for collecting eyes and "ear stones." The former are dyed and made into pins; the latter are sold as links

DEVIL FISH CROUCHING FOR A LEAP

LIBRARY
OF THE
UNIVERSITY
OF
CALIFORNIA

SCENE IN THE KELP BEDS

or sleeve-buttons. Then there are guides, as Mexican Joe and Joe Adargo, who know the wild goat country well and who take you out with a guarantee of game.

Perhaps the most interesting thing at the island is the uses to which everything is put. At Santa Barbara the beautiful abalone shells taken at the islands are worked into electric light shades and many other articles. At Anacapa and Santa Cruz I met a man who collected kelp (*Nereocystis*), which he sent to Los Angeles to a factory that employs many girls, who convert the seaweed into countless articles.

"It 's funny that no one has thought about this before," said the little man. "You see, it grows all along the coast from San Francisco to Patagonia, and is a long green and amber-hued vine. Down on the South American coast and the Falkland Islands it is five hundred or even one thousand feet long, and small vessels can tie up to it; but up here it ranges thirty or forty feet, a long stem, and this big fluted leaf, ten feet or so long.

"You know," continued the weed-collector, "all great discoveries are made by accident, so some inventive genius in walking along the sands found a twisted stem of kelp several feet long. He took it home, dried it, and found that he had a staff as hard as stone. He made two canes of it, and after oiling them up sold them to a dealer for two dollars apiece and got an order for more. I am not the original genius, but I am not far behind on the kelp question. I have a partner up in the city, and you would hardly believe it, but we have in the season thirty or more girls at work making kelp curios.

"You see this piece?" and the old man hauled the

long amber-hued vine up out of the water. "The stem is made into a dozen, perhaps less, canes. We dry it under slow heat, polish it, touch it up with oil and have a freak cane,— not the kind you would want to carry on Broadway, but our patrons don't all walk on Broadway. They belong to the great rich tourist class from the towns and cities of the Middle West; farmers who make enough in summer to come out to California and live all winter, and they are the people who will buy anything that they have never seen before, and kelp hits them hard.

"Of course, canes are not the only things we make. You see, we offer premiums to our girls for new ideas, and they are constantly inventing things; and as a result we have a lot of standard kelp articles, as cups, baskets, chains, necklaces, paper weights, German favors, and almost everything you can think of or that can be twisted into shape. Between you and me, it is about the homeliest lot of stuff that was ever turned out for the tourist trade, but it sells; they want it, and we propose to supply it if we loot the whole Pacific Ocean. Then, again, my share of the partnership is not so bad as it might be.

"It keeps me out of doors, and wandering along the beach is not such a disagreeable pastime as one might imagine. I see a lot of curious things — diversions that some people would give a good deal to see. I come down at flood tide, pick up the kelp and haul it high above the water mark, and in a little while I can cover three or four miles. Then I come down from my place, back here a mile from the beach, with a hay wagon, and we pack the kelp in as we would hay, though it is much heavier. Then it is carried to my

place where it is assorted. The stems are all put together, all the leaf parts in one place; in fact we have a regular system of classification, and in the shop it is carefully carried out. Thus, one of the popular objects is a comical imitation of a human figure. One girl adjusts the body, next it goes to one who puts on the legs, the next fits the arms, and so the little figure passes down the line, beginning with nothing and ending in a perfect or complete figure in weed.

"We have," continued the little old man, "over two hundred objects which we make entirely from seaweed, which sell at from two bits to five dollars. What is known as ball kelp is a really attractive ball of perfect shape the size of a child's head, mounted on a graceful club. The ball is really a float and is attached to a vine of enormous length, and can only be found after a bad storm which tears it up in deep water. This we make up into all kinds of things, from Indian war clubs to cups and baskets.

"A lot of this seaweed is good to eat, if people only knew it. The Japanese and Chinese eat it, but Americans have no use for it. The only seaweed they will touch is carrageen, which is made into the most delicate foods, as blancmange; but there are a lot of seaweeds just as good.

"There are a lot of incidentals in this business," said the weed-collector after a pause. "In the last two years I have found two whales. Finding 's keeping with stranded whales. One was sixty feet long; it was run into and killed by a steamer. I saw in the papers that passengers felt the shock, and I knew a dead whale would turn up. Sure enough, I saw it in the kelp several days later, and I got a hawser around

it and we towed it onto the beach at high tide, and at the ebb it was high and dry. I hired some men, who got it up out of the reach of the water; then I got a tent over it, and made a hundred dollars before it began to get too loud; then I sold the blubber to a man, reserving the skeleton, which I sold to an Eastern museum. So whaling alongshore pays when you know how to go at it.

"One year I found a lot of cuttlefish that ran into the surf. I was riding along the beach, and I got a pole and rode into them, and killed about twenty, I guess. Some were eight or ten feet long. I hauled them up and showed them for four or five days in my whale tent; then, after taking out the bills, eyes, and pens, which I sold as curios, I sold them to the fishermen, who salted them down for bait. Each cuttle had a pen a foot long, a beautiful object, as delicate and fragile as a feather pen. The eyes when hardened look like pearls, and they are mounted as pins. The bills are chestnut-color, and look just like a parrot's bill.

"There is another curiosity about a cuttlefish. Each one has a sac of indelible ink; and — would you believe it? — tourists would pay ten cents to have their name written on a handkerchief with the pen and ink of the animal. When I get as far as that I always say, 'No one will believe that story unless you have the pen and ink.' So I would sell the pen for two bits, or fifty cents, and the ink sac for the same; and lots of them bought the eye pins. There 's a lot to know in this business. For instance, most all the fishermen throw away the heads of fishes, especially those of groupers; nobody wants them. But in each

old head are two beautiful ear stones that look like pearls. They are on the top of the head, each about an inch long and half an inch wide. The fishermen — these Italians and Portuguese — don't know what they are; but the tourists buy them for good-luck stones, and four mount up into a fancy pair of sleeve-buttons.

"Sometimes you find things you don't want to, but not often. Once I found a wreck. A lumber schooner came in, but the sea tossed her up so high the men got ashore without wetting their feet. The rarest thing I 've found was a ribbon fish. This one was nearly thirty feet long; but a Mexican had cut it all up before I got there, and about ruined it. He simply ruined a hundred dollars, for I could have got that for it, and more too, in good condition. Did you ever notice," asked the old man, "that in all the sea-serpent stories there is a 'mane'? Well, the fish had a red mane, red fins or plumes (the most beautiful fish I ever saw) about a foot wide, silvery, slashed with bars of black; yet that feller cut off the mane."

APPENDIX

THE GAME FISHES OF THE CHANNEL ISLANDS

Their technical names and the tackle and bait used in taking them

LEAPING TUNA (*Thunnus thynnus*), 250 pounds. So far taken with rod and reel only at Santa Catalina and San Clemente Islands.

Tackle: A rod not under 6 feet in length, or weighing over 16 ounces, 21 or 24-thread line with a dead strain of not less than 42 or 48 pounds. The bait for the leaping tuna is flying-fish. Taken trolling. Large Vom Hofe reel; 600 feet of line. Season: May to October; uncertain.

LONG-FINNED TUNA (*Thunnus alalonga*) (Jordan), 60 pounds.

The tackle for this fish is a 9-ounce rod, not less than 6 feet in length, with a 9-thread line having a breaking strength of not over 18 pounds. Bait is sardine, smelt, and sometimes they are taken with a spoon. Trolling or still-fishing. Season: March to December, but varying — sometimes early, sometimes late.

YELLOW-FINNED TUNA (*Thunnus macropterus*) (Jordan), 75 pounds.

The tackle is a 9-ounce rod, not less than 6 feet long, a 9-thread line with a breaking strength of 18 pounds. Bait for the yellow-finned tuna is sardine, smelt, and it will also take large pieces of albacore. Taken trolling and still-fishing, when school is located. Season: May to October; uncertain.

SANTA CATALINA SWORDFISH (*Tetrapturus mitsukurii*), 350 pounds.

The bait for this swordfish is flying-fish. The rod is a 16-ounce single piece rod, a line of 21 or 24-thread. Large Vom Hofe reel holding 600 feet. Season: June to December.

SANTA CATALINA DOLPHIN (*Coryphæna hippurus*), 15 pounds.

A 6-ounce rod with a 6-thread line, with a breaking strength of not over 12 pounds. The bait, sardine or smelt. Trolling or casting near floating kelp. Season: May to December.

WHITE SEA BASS (*Cynoscion nobilis*), 70 pounds.

A 9-ounce rod not less than 6 feet long, 9-thread line with a breaking strength of not less than 18 pounds. Bait, a Wilson spoon, sardine, flying-fish, or smelt. Trolling or casting. Live bait most desirable.

SEA TROUT OR BLUEFISH (*Cynoscion parvipinnis*).

Six ounce rods. Season: March to December.

OCEANIC BONITO (*Gymnosarda pelamis*), 15 pounds.

The tackle for this fish is a 6-ounce rod not less than 6 feet long, the line a No. 3 or a No. 6, with a breaking strength of not less than 12 pounds. Bait, a small spoon, sardine, or smelt.

BONITO (*Sarda chilensis*), 20 pounds.

The tackle for the bonito is a 6-ounce rod, 6-thread line, bait same as for the oceanic bonito. Taken trolling. Can be attracted to boat by "chum," then taken by casting. Season: spring and summer.

ROCK BASS (*Paralabrax clathratus*), 5 to 10 pounds.

There are a large number of species of these fishes affording excellent sport with a rod. Tackle should be a 6-ounce rod, 7 or 8 feet long, more or less, with a No. 3 or No. 6 line. The bait is sardine, smelt, or a spoon. Ordinary black bass or trout

tackle is sufficiently large for them, but oiled silk lines cannot be used in salt water. Trolling or casting. Season: all the year.

SHEEPSHEAD (*Trochocopus pulcher*), 10 to 15 pounds.

A bottom fish feeding on shells, crabs, etc. Tackle a 9-ounce rod, a 9-thread line. Bait for this fish is crayfish, abalone, sardine, or almost any kind of bait. It is found in shallow water, and the bait should be lowered to the bottom, or near it. Season: all the year, best from May to December.

WHITEFISH (*Caulolatilus princeps*), 12 pounds.

This fish is found in water 20 to 30 feet deep, but can be "baited" to the surface, and is one of the finest game fishes in California waters. Tackle, a 9-ounce or a 6-ounce rod, with a 9-thread or 6-thread line, the lighter preferred. Bait, sardines smelt, abalone, or crayfish. Still-fishing; — in a tideway, if possible. Season: all the year, but best in the summer and fall.

BLUE-EYED PERCH (*Girella nigricans*), 3 or 4 pounds.

Tackle, 6-ounce rod, or better, an ordinary trout rod, 3 or 9-thread line, with a very small hook and crayfish or abalone bait. Found in medium depths and can be baited or "chummed" to the surface. Season: all the year.

MEDIALUNA (*Medialuna californiensis*), 2 to 4 pounds.

A very game little fish of medium depths, which can be baited to the surface. Tackle, 4 or 6-ounce rod, No. 3 or 6 line, crayfish or abalone bait. Season: all the year.

OPHA (*Lampris guttata*).

This is the most beautiful fish in the world, and *one* specimen has been taken with rod and reel between Santa Catalina and San Clemente. Tackle, 9-ounce rod, 9-thread line. Sardine or smelt bait. Very rare; probably not over fifty fishes of this kind have been reported. Attains a weight of 50 to 75 pounds.

BLACK SEA BASS (*Stereolepis gigas*), 300 or 400 pounds.

This fish is found in water 20 to 40 or 50 feet deep. Tackle, 16-ounce rod, not less than 6 feet in length, 21 or 24-strand line, No. 10 hook. Bait, a piece of albacore weighing 5 or 6 pounds, or a live whitefish which is allowed to descend near the bottom. Small specimens of these fishes have been taken by trolling with a whitefish, with the bait near the bottom. Season: April to December.

BARRACUDA (*Sphyrena argentia*), 10 to 15 pounds.

This is a surface fish running in schools and can be taken with a 9-ounce rod, 9-thread line, and a spoon, sardine, or smelt bait. Trolling. Season: spring and summer.

HALIBUT (*Paralichthys maculosus*).

This is a bottom fish, attaining a weight of 50 pounds, and very game. Taken with a 9-ounce rod, No. 9 line, sardine bait. Found in medium depths off sandy beaches.

RONCADOR (*R. stearnsii*).

A number of interesting fishes are included under this head, also called surf fishes, running up to 5 or 6 pounds. Taken on the bottom, with clam, crab, or crayfish bait.

SHARKS.

Several kinds of sharks are taken here. For the largest, 16-ounce rod 21 or 24-thread line, fish bait of any kind. The smaller oil shark (*Galleorhinus galens*) can be taken in Santa Catalina Harbor with a 9-ounce rod, 9-thread line. This shark leaps, and affords excellent sport. Fish bait of any kind. Hammerhead shark and bonito shark (*Isuropsis glauca*) are the common catches with rod and reel.

YELLOWTAIL (*Seriola dorsalis*).

Sixty pounds, very game, comparable to the Eastern bluefish, related to the amberjack of Florida, same genus; comes in schools in March or April, breaks up, and is the game fish

of the islands. Taken with 6-ounce or 9-ounce rods, 6-thread or 9-thread lines. Bait, fresh sardine, smelt, or Wilson spoon, though when hungry the yellowtail will strike at anything, and a large 18-inch flying-fish is the best bait for large specimens. Affects waters alongshore, deep or shallow; can be found out at sea under kelp islands when the angler can cast a sardine. The hook, No. 10, should have a short wire leader. Pound for pound the yellowtail is the hardest fighting fish around the islands. Two hundred feet of line is sufficient. Trolling or still-fishing. Season: April to December 15, changing year by year.

TACKLE

The rods referred to above are made of split bamboo, noibe wood, a species of South American greenheart, American greenheart, ironwood. The author prefers split bamboo, all things considered, but uses greenheart and noibe wood. The specifications of the Tuna Club are now followed by many makers, and such rods are for sale at Avalon by the various dealers. The rods are all single sticks, that is, the tip is long, not jointed, the butt being short, intended to fit into the belt socket of leather, shown in the illustration, or in the heavy rods, into the seat socket.

The angler can, of course, use any kind of a rod, but to have a chance for prizes in the tournaments, they must be of a certain size as given.

REELS

The reel is a most important feature in sea-angling. A poor reel is impossible, as after a long play it will "bind," or "go to pieces." There are a number of reels in use, but I think it is no disparagement to other makers to say that the sea-fishing reels of Edwin Vom Hofe are mostly used here, for the reason that they have stood the test of tuna fishing for twenty-five years. Three sizes are used, one for small fishes, one for yellowtails, and fishes up to 60 or 100 pounds, and another holding 600 feet of No. 21 thread line for the leaping tuna and the Santa Catalina swordfish. These and other reels cost from $5 to $75, and are shown in plates facing pages 58 and 59.

The rod is important, but the reel is still more so, as it must,

in taking a large fish, stand a heavy strain; and a poor reel or a cheap reel, will often go to pieces like the one-horse shay. There are a number of dealers in New York and other places who make good reels, which are kept in stock by Mr. A. A. Carraher and Mr. William Hunt, who have large outfitting houses at Avalon, Santa Catalina Island. Their advice can be depended upon, as they are themselves practical anglers. Vom Hofe, Abby, and Imbrey, Chubb, Roy Shaver, Murphy, and various other makers, build rods and reels for the peculiar sea-angling of the Channel Islands.

CLUB MEMBERS

The Tuna Club has members in almost every American, and a number of large European cities, and if the would-be angler, living in the East or Europe, will address a line to the Secretary of the Tuna Club, Avalon, California, he will be given the address, in many instances, of a club member in his own city, who will, with the *camaraderie* of anglers, give any information he can.

BOATMEN

All the boatmen at the islands have tackle, and this is included in the price of the trip; the understanding being that if the angler uses the often light and often expensive tackle, he must pay for it if it is broken. Every angler should own his sea-angling tackle, three or four reels, three or four rods, a trunk for hooks, lines, etc., as this feature is, beyond question, half the sport.

HOW TO REACH THE CHANNEL ISLANDS

If the angler is on the Continent, he can obtain full particulars of the best modes of travel by addressing Mr. Rudolph Falck, at any of the following offices, where may be obtained the publications of the Tuna Club and its branches: London, England, 22 Cockspur street, 49 Leadenhall street; Liverpool, England, 25 Water street; Paris, France, 39 Rue St. Augustine; Genoa, Italy, 117 Via Balbi; Hamburg, Germany, 23 Ferdinandstrasse; Antwerp, Belgium, 11 Rue Chapelle de Grace; Bordeaux, France, 46 Quai des Chartrouse.

From New York there are several lines of steamers to New Orleans (Southern Pacific) or Galveston, making (in the experience of the author) a pleasant diversion. At New Orleans, the Sunset Route can be taken through Texas, New Mexico, and Arizona to Los Angeles, a city of 350,000 inhabitants, from which the steamers of the Wilmington Transportation Company can be taken daily to Santa Catalina Island: The port of Los Angeles is reached in half an hour by the Pacific Electric Line, the Salt Lake Railroad, the Southern Pacific Railroad, or the Atchison, Topeka, and Santa Fe Railroad, or it is a pleasant motor car trip.

From New York or Chicago, the Atchison, Topeka, and Santa Fe Railroad takes one across the continent to Los Angeles, now a great railroad centre. If the angler is in Montreal, or desires the northern trip, he can take the Canadian Pacific, the Northern Pacific, or the Union Pacific Railroads, pass through Washington and Oregon, and come down the coast to Santa Barbara, Los Angeles, or San Diego, each being off a distinct group of the islands.

CLIMATE AND ATTIRE

There is generally something to be caught around the Channel Islands at any time, but like all other places they have a fishing *season*, and the best fishing is from May to January, changing with the seasons. If the winter is very mild the yellowtails do not all leave; I have caught them from the Avalon wharf every week in the winter.

In the matter of attire, anglers or visitors to Southern California should dress, season for season, as they do in New York. The flowers bloom all winter in Southern California, but the country is not in the tropics; it is cool and bracing, and you need Eastern winter attire in winter, and Eastern summer attire in summer. The man or woman who expects to wear white flannels or muslin in Southern California in winter, or from December to April, will suffer, even if the roses and heliotrope are in full bloom out of doors. The winters are delightful, but the summers at the islands are practically perfect. There is no rain between May and November, no storms,

and the days and nights are almost invariably cooler than at any seaside resort on the Atlantic Coast between Nova Scotia and Florida. A few hot days come now and then, as this is not a real Paradise, but taking the summer as a whole, from Santa Barbara to Coronado alongshore, I do not believe its equal for absolute comfort can be found anywhere. I am speaking now of the average, and after an experience of twenty-five years. The nights are invariably cool, and from one to two blankets are needed, and this applies to Los Angeles and Pasadena and the country from twenty to thirty miles from the coast.

No especial costume for fishing can be advised, as the launches are neat and clean, and the angler, man or woman, does not of necessity come in contact with the fish. For a man, a soft light hat, a soft-collared shirt, silk or flannel, and a sweater; comfortable shoes (rubber-soled tennis shoes are admirable), a silk handkerchief for the neck, perhaps, — as even the Channel Islands sun will burn, — then a philosophical frame of mind, a disposition to take things as they come, a good companion, a good brand of cigars, or a pipe, and — the yellowtails will do the rest.

ACCOMMODATIONS

Los Angeles, a city of 350,000 inhabitants, has many large and beautiful hotels, and this city is the natural point of departure for a trip to the islands. Avalon, the town of Santa Catalina Island, has a summer population of eight or nine thousand; one ocean steamer a day in winter, three or four in summer. It has one large hotel, the Metropole, and numbers of small ones; or cottages can be rented, or tents, there being a remarkable series of canvas houses, or tents, beneath groves of eucalyptus trees. For definite information regarding the sailing of Santa Catalina steamers, the visiting angler should address The Wilmington Transportation Company, Pacific Electric Building, Los Angeles, California.

Some seasons, the tunas, or other fishes, come very early or late, and data regarding the existing conditions of the fishing may be had by addressing the Tuna Club, Avalon, or its corre-

sponding secretary, C. V. Barton, San Fernando Building, Los Angeles, Cal., or its secretary, L. P. Streeter, Pasadena. The Tuna Club has affiliations with a number of Eastern and English clubs, which consist of an agreement to facilitate the sport of visiting anglers while on the Pacific Coast, and the angler, who has the *entrée* to the Club at Avalon, will have every courtesy shown him in a hearty spirit of good-fellowship.

U. S. DEPT. OF AGRICULTURE — WEATHER BUREAU
COÖPERATIVE OBSERVERS' METEOROLOGICAL RECORD

TUNA CLUB, AVALON, CATALINA ISLAND, CAL., 1909–1910

MONTHLY SUMMARY

	December	Date	January	Date	February	Date
TEMPERATURE:						
Mean Maximum	60.5		60.3		60.9	
Mean Minimum	48.2		46.2		47.4	
Mean	54.3		53.2		54.15	
Maximum	67	12th 15th	73	21st	70	25th
Minimum	41	4th	39	6th	41	2d
Greatest Daily Range	17.5	11th 12th	21.5	27th	19	5th
Least Daily Range	3.5	9th	8.5	15th	6.5	14th
Mean Range	12.2		14.1		13.6	
PRECIPITATION:						
Total in Inches	6.71		1.12		0.09	
Greatest in 24 Hours in Inches	1.96	5th	0.61	2d	0.09	20th
CHARACTER OF DAYS:						
With 0.01 Inches or more Precipitation	9		6		1	
Clear	14		14		18	
Partly Cloudy	7		10		8	
Cloudy	10		7		2	
BAROMETER AT 5 P. M.						
Maximum					30.24	3d
Minimum					29.88	1st 28th
Mean					30.08	

Total Seasonal Precipitation (from Oct. 1, 1909), 8.94 Inches

The remarkable nature of the island climate is shown by the following extremes taken in 1905 at Avalon, Santa Catalina. The temperatures were taken under a piazza, facing the channel:

	Warmest Day	Coldest Day
March	72°	58°
April	66°	60°
May	70°	61°
June	73°	63°
July	76°	65°
August	74°	64°
September	81°	67°
October	73°	58°
November	64°	61°

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